



Calhoun: The NPS Institutional Archive

Theses and Dissertations

Thesis Collection

1994-06

A cost benefit analysis of the Naval Postgraduate
School's Financial Management program versus
civilian institutions

Borkowski, Paul E.

Monterey, California. Naval Postgraduate School



Calhoun is a project of the Dudley Knox Library at NPS, furthering the precepts and goals of open government and government transparency. All information contained herein has been approved for release by the NPS Public Affairs Officer.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>

NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

A COST BENEFIT ANALYSIS OF THE NAVAL
POSTGRADUATE SCHOOL'S FINANCIAL
MANAGEMENT PROGRAM VERSUS
CIVILIAN INSTITUTIONS

by

PAUL E. BORKOWSKI

JUNE, 1994

Thesis Co-Advisors:

Daniel Boger
Gregory Hildebrandt

Thesis
B714575

Approved for public release; distribution is unlimited.

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY CA 93943-5101

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE June 1994	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE A COST BENEFIT ANALYSIS OF THE NAVAL POSTGRADUATE SCHOOL'S FINANCIAL MANAGEMENT PROGRAM VERSUS CIVILIAN INSTITUTIONS		5. FUNDING NUMBERS	
6. AUTHOR(S) Paul E. Borkowski			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey CA 93943-5000		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE *A	
13. ABSTRACT (maximum 200 words) The purpose of this thesis is to compare the Naval Postgraduate School's Financial Management program to similar civilian programs. The research focused on cost and qualitative differences between NPS and four civilian counterpart curriculums. A previously derived unit cost model was used to determine the full cost of instruction within the Department of Systems Management at NPS, and reference materials obtained from the Department of Education provided insight into the full cost of instruction at each of the four civilian institutions. This study includes recommendations for continued operation of the Financial Management program at the Department of Systems Management within the Naval Postgraduate School based on its cost efficiency.			
14. SUBJECT TERMS COST BENEFIT ANALYSIS, FINANCIAL MANAGEMENT		15. NUMBER OF PAGES 159	
		16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)

Prescribed by ANSI Std. Z39-18

Approved for public release; distribution is unlimited.

A COST BENEFIT ANALYSIS OF THE NAVAL POSTGRADUATE
SCHOOL'S FINANCIAL MANAGEMENT PROGRAM VERSUS
CIVILIAN INSTITUTIONS

by

Paul E. Borkowski

Lieutenant, United States Navy

B.S., State University of New York at Buffalo, 1984

Submitted in partial fulfillment
of the requirements for the degrees of

MASTER OF SCIENCE IN MANAGEMENT

NAVAL POSTGRADUATE SCHOOL

June 1994

Author:

Paul E. Borkowski

Approved by:

Daniel C. Boger, Co-Advisor

Gregory G. Hildebrandt, Co-Advisor

David R. Whipple, Chairman
Department of Systems Management

ABSTRACT

The purpose of this thesis is to compare the Naval Postgraduate School's Financial Management program to similar civilian programs.

The research focused on cost and qualitative differences between NPS and four civilian counterpart curriculums. A previously derived unit cost model was used to determine the full cost of instruction within the Department of Systems Management at NPS, and reference materials obtained from the Department of Education provided insight into the full cost of instruction at each of the four civilian institutions.

This study includes recommendations for continued operation of the Financial Management program at the Department of Systems Management within the Naval Postgraduate School based on its cost efficiency.

TABLE OF CONTENTS

I.	INTRODUCTION	1
A.	BACKGROUND	1
B.	OBJECTIVE	3
C.	THE RESEARCH QUESTIONS	4
D.	SCOPE AND LIMITATIONS	6
E.	ORGANIZATION OF THE STUDY	8
II.	NAVAL POSTGRADUATE SCHOOL AND CIVILIAN INSTITUTIONS	10
A.	FINANCIAL MANAGEMENT CURRICULUM (837)	10
B.	EDUCATIONAL SKILL REQUIREMENTS FOR CURRICULUM 837	11
C.	COMPARABLE CIVILIAN INSTITUTIONS	12
D.	THE FULL COST OF TUITION	14
III.	THE STUDENT ADMISSION MODEL	16
A.	INTRODUCTION	16
B.	METHODOLOGY	16
C.	APPLICATION OF THE ADMISSIONS MODEL	20
D.	THE CIVILIAN INSTITUTIONS CHOSEN FOR COMPARISON	28

IV. THE CONCEPT OF UNIT COSTING	31
A. INTRODUCTION	31
B. WHAT IS UNIT COSTING?	31
C. UNIT COST PROCEDURES	32
D. UNIT COSTING AT NPS	33
1. Cost Classifications	33
2. Cost Aggregation and Allocation	34
3. Output Measurement at NPS	37
V. COST DATA COLLECTION AND PRESENTATION	39
A. INTRODUCTION	39
B. UNIT COST REPORTING	39
C. COST OBJECTS AT NPS	40
D. SOURCE AND CLASSIFICATION OF COST DATA	41
E. COMPLETION OF THE UNIT COST MODEL	44
1. Direct Costs	45
a. Direct Labor Costs for Instruction	45
b. Civilian Direct Faculty Labor Costs for Instruction	45
c. Civilian Direct Clerical Labor Costs for Instruction	46
d. Military Direct Labor Costs for Instruction	47
e. Direct Non-Labor Costs for Instruction	50
2. Indirect Costs	51
a. Allocation of Indirect Costs	51

b. Indirect Labor Costs for Instruction	55
c. Indirect Non-Labor Costs for Instruction	56
3. General and Administrative Costs	60
a. Non-Labor Expenses, Base Operating Support (BOS) and Maintenance of Real Property (MRP)	62
b. Other Labor Costs	68
c. Allocation of G&A Costs	69
F. COMPARISON OF THE FULL COST DATA	72
1. Introduction and Limitations	72
2. Deriving the Full Cost at Civilian Institutions	75
a. Direct Costs of Instruction	75
b. Indirect and General and Administrative Costs	75
c. Allocating the Indirect and General and Administrative Costs	75
d. Full Cost Per Student for Instruction	76
e. The Inflation Factor	81
f. The Time Delta	84

VI. COMPARISON OF COST AND QUALITATIVE ASPECTS OF NPS TO CIVILIAN INSTITUTIONS	89
A. INTRODUCTION	89
B. FULL COST VERSUS TUITION COST	89

C.	A REVISIT OF DATA LIMITATIONS	92
D.	UNIQUENESS ASPECTS	94
1.	Admissions process	94
2.	Qualitative Aspects of NPS	97
a.	The Thesis	97
b.	Superintendent's Guest Lecture Series .	98
c.	Military Atmosphere	98
d.	Other Aspects	99
E.	A SUMMARY COMPARISON OF COSTS	100
VII.	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	103
A.	SUMMARY	103
1.	Primary Research Question	103
a.	Is there a significant benefit in the Naval Postgraduate School maintaining a Financial Management program as compared to sending its students to civilian institutions?	103
2.	Subsidiary Research Questions	104
a.	To capture all of the costs associated with the Financial Management program, I must define the unit of output.	104

b. Are Financial Management curriculum courses sufficiently unique in nature or sequencing that they can not be duplicated at other civilian institutions?	105
c. The Office of Management and Budget Circular A-94 stipulates that when measuring the costs of a federal program or policy, the full cost to society should be analyzed and not just the cost to the Federal Government.	105
d. What is the cost of transitioning students with limiting undergraduate backgrounds or no recent academic experience?	106
B. CONCLUSION	107
C. RECOMMENDATIONS	108
D. TOPICS FOR FURTHER RESEARCH	109
APPENDIX A, 1993 LABOR COST DATA	111
APPENDIX B, 1993 FINANCIAL PLANS	120
LIST OF REFERENCES	148
INITIAL DISTRIBUTION LIST	150

I. INTRODUCTION

A. BACKGROUND

Base closure and realignment are the realities of the Post-Cold war era as well as continuing budget constraints that are mandated by Congress. Like all military installations, Naval Postgraduate School will be again scrutinized in the 1995 Base Realignment and Closure process. To effectively participate in the process, Naval Postgraduate School must be ready with an estimate of the true costs and benefits that the institution provides. What must not be overlooked is the mission and uniqueness of education that the Naval Postgraduate School provides in educating officers who will be expected to carry the burden of protecting our national security into the twenty-first century. In the arena of an ever changing threat and mission responsibilities and cuts in resources and manpower, the need for a more highly educated officer corps becomes all that more important.

It is accepted that there is a need for naval post-baccalaureate education, and therefore it is important to choose the most cost effective programs that meet the needs of the Navy.

He [The Chief of Naval Operations] approved the Graduate Education Review Board's recommendations that the Navy commit to retain the Naval Postgraduate School (NPS) at Monterey. He expressed the philosophy that education is

a major asset that the Navy should continue to support in the most cost effective way possible. Furthermore, he stated that civilian educational institutions (CIVINS) could not support Navy requirements to the extent required, and, that it would take additional resources to require CIVINS to respond to Navy subspecialty requirements.[Ref. 1]

Comparing dollar costs appears to be an easy measure, however it is important to understand the framework in which these numbers are generated. Numbers themselves are meaningless until a logical approach is applied to interpret the data to ensure that comparisons of figures are generated within the same frame of reference.

There are a number of possible closure scenarios that could involve the Naval Postgraduate School. One scenario would involve the shutdown of the Naval Postgraduate School and transfer of some residual programs to the United States Naval Academy. The Navy would continue its program of graduate education but send its students to civilian graduate schools. The premise of this scenario is that civilian institutions could deliver the required masters degrees at significant savings. Military courses and relevant Department of Defense instruction could be obtained in Annapolis during experience tours[Ref. 2]. It is important to examine this scenario by conducting a comprehensive cost and qualitative analysis to determine whether the Naval Postgraduate School provides an equivalent or better education at a competitive price.

These concerns are the driving elements for this study. It is important to see if there is a better way to deliver post-graduate education while meeting the resource sponsor's need to have qualified officers to fill required billets. Dollar costs are a part of the equation, however there are qualitative features that may not have a dollar figure attached but which must also be considered when weighing the alternatives.

B. OBJECTIVE

The purpose of this study is to conduct a cost/benefit analysis of the Naval Postgraduate School's Financial Management program and compare it to similar graduate programs at civilian institutions. In doing this, I will employ an existing unit cost model to develop the yearly cost associated with instruction in the Department of Systems Management and compare it to the yearly total spending per student for Masters of Business Administration programs at selected civilian institutions. I chose to compare the Financial Management program to selected MBA programs because both offer the opportunity to be designated with the XX31P sub-specialty code. This sub-specialty code allows those officers designated to be billeted into jobs requiring financial skills. There are civilian institutions that offer a Masters in Public Administration (MPA). This program might mirror more closely the objectives of the Financial Management

program, however there are no currently approved MPA programs that offer the XX31P sub-specialty code. For comparison purposes I felt that it was better to use the currently approved MBA programs rather than speculating which MPA programs would satisfy the curriculum sponsor's requirements for the XX31P sub-specialty code.

In addition to comparing costs, I will assess the admission requirements, Educational Skill Requirements, transition costs, course sequencing and course uniqueness between the Naval Postgraduate School and the selected civilian Masters of Business Administration programs.

C. THE RESEARCH QUESTIONS

The primary research question is the following: Is there a significant benefit in the Naval Postgraduate School maintaining a Financial Management program as compared to sending its students to civilian institutions?

Subsidiary questions to be addressed in assessing the costs and benefits associated with the Financial Management program:

a. To capture all of the costs associated with the Financial Management program, I must define the unit of output.

b. Are Financial Management curriculum courses sufficiently unique in nature or sequencing that they can not be duplicated at other civilian institutions? In terms of

course uniqueness, Naval Postgraduate School teaches courses with an emphasis on defense-related matters that may not be duplicated at civilian institutions. Examples:

1. Courses in both public/private sector cost accounting and auditing standards.

2. Extensive analysis of the Planning, Programming and Budgeting System (PPBS) employed by the Department of Defense in preparation for budget submissions.

3. Practical course work on the role of naval comptrollers in the budgeting process.

4. Analytical approach to economic costs versus accounting costs.

5. Major systems acquisition and program management.

6. Theses that are primarily Department of Defense related.

c. The Office of Management and Budget Circular Number A-94, dated 29 October 1992, [Ref. 3] stipulates that when measuring costs of a federal program or policy, the full cost to society should be analyzed and not just the cost to the federal government. Tuition alone does not cover the entire cost of putting a student through a civilian graduate program. Grants, research and endowment monies are significant factors that help defray costs. In light of this circular, how do we measure the cost of attending a civilian institution?

d. A relevant issue is the cost associated with transitioning students with limited undergraduate backgrounds or recent academic experience. How do we compare the cost of a student who would not be able to directly enter a civilian graduate program that meets the educational skill requirements of the resource sponsor?

D. SCOPE AND LIMITATIONS

The framework in which a departmental unit cost was derived uses the existing financial data available to the Naval Postgraduate School's administrative line managers. The purpose of unit costing is to identify those resources consumed to produce an end product and assign a cost to it. There is no attempt to develop any new reporting features or unit cost models. In fact, techniques are borrowed heavily from a unit cost model developed by two NPS graduates, whose thesis was an attempt to utilize existing financial data to determine a unit cost for NPS as a whole.[Ref. 4] Manipulations of the cost data are necessary to ensure proper allocation. The Hunter and Hicks unit cost model is more than adequate to be able to derive a cost of instruction for the Systems Management Department on a yearly basis and compare that cost to yearly tuition or the full cost of instruction at selected civilian MBA programs. It is important to point out that the accounting system at NPS, like most public sector systems, is not specifically set up to derive a unit cost.

There are limitations on the availability of actual cost data, so in some instances operating targets (OPTARs) are used to approximate the actual costs incurred. The differences in actual costs versus operating targets are generally small as a percentage and are not considered significant. It should be clear that the unit cost figure that is derived is a best estimate and not an absolute figure that precisely estimates the relevant annual cost. Further explanation of terms and allocation rationale will be addressed in subsequent chapters.

An admissions model is developed that identifies the criteria that are commonly evaluated by Masters of Business Administration (MBA) admission boards prior to a student being selected into a graduate program. The model is of my own making. The model is deliberately lenient in favor of direct acceptance into a civilian MBA program. The supposition of the model is to identify those students who would be directly accepted into a civilian MBA program and those who would not. The rationale is that even with relaxed admission standards, the Navy would not be able to place all of their Financial Management students into civilian MBA programs without incurring some transitioning costs. The transitioning costs are those that would be necessary to bring all the required students up to minimum standards for acceptance. The criteria used to evaluate a student's potential for acceptance is based on interviews with admission offices at four leading MBA programs.

E. ORGANIZATION OF THE STUDY

A brief discussion of the remaining chapters is outlined.

1. Chapter II: Civilian Institutions versus Naval Postgraduate School

This chapter will introduce what Educational Skill Requirements (ESRs) are, and why they are used. Also a review of selected civilian institution MBA programs is made to facilitate comparison to the Financial Management program at NPS.

2. Chapter III: The Student Admission Model

This chapter will introduce the formulation of the student admission model and rationale for the civilian MBA programs that were chosen for comparison. Also presented will be the results of current Financial Management students academic data being used.

3. Chapter IV: Concept of Unit Costing

This chapter will provide a synopsis of the concept of unit costing. A discussion of generally accepted unit cost definitions, allocations and selection of cost objects will be presented.

4. Chapter V: Cost Data Collection and Presentation

This chapter will introduce the Hunter and Hicks unit cost model and describes the step by step process used to develop a departmental unit cost at NPS. Included is a description of the sources, research methods and techniques

used in organizing and reporting the cost data. In addition, the full cost of instruction at the selected civilian institutions will be calculated and presented.

5. Chapter VI: Comparison of Cost and Qualitative Aspects of Naval Postgraduate School to Civilian Institutions

This chapter will compare the full costs of instruction at Naval Postgraduate School to selected civilian MBA programs. In addition, there is a discussion of the qualitative aspects of Naval Postgraduate school that contributes to its uniqueness in preparing Naval Officers for future assignments.

6. Chapter VII: Summary, Conclusions and Recommendations

This chapter will present my conclusions and recommendations for the future of the Naval Postgraduate School. Also, I will suggest topics for future research.

II. NAVAL POSTGRADUATE SCHOOL AND CIVILIAN INSTITUTIONS

A. FINANCIAL MANAGEMENT CURRICULUM (837)

The objective of the Financial Management curriculum: is to prepare naval officers for business and financial positions within the Navy.[Ref. 5]

This is accomplished by offering officers a six quarter (18 months), 24-course curriculum matrix leading to a Masters of Science (MS) degree in Management. Included in the course matrix are nineteen core courses, two elective courses and three course blocks that are specifically devoted to the completion of a required thesis.

In addition to conferring a masters degree, the Financial Management curriculum is also responsible for meeting the requirements of the program sponsor. The Financial Management (837) curriculum sponsor is the Director of Fiscal Management Division (N-82) in the office of Chief of Naval Operations. The Director's office has promulgated the skill requirements that all graduates from the Financial Management program will acquire during their course of study. These skill requirements are formulated by the resource sponsor into specific Educational Skill Requirements. It is the responsibility of the Department of Systems Management to design a course matrix that meets all of the Educational Skill Requirements.

B. EDUCATIONAL SKILL REQUIREMENTS FOR CURRICULUM 837

Educational Skill Requirements (ESRs) are skills that are directed to be acquired by the resource sponsor prior to being awarded the sub-specialty code (XX31P) for Financial Management. In many respects, these skill requirements for the sub-specialty code mirror the educational requirements to obtain a masters degree with notable additional military emphasis. Below are listed the Educational Skill Requirements for the Financial Management (837) curriculum.

1. A comprehensive understanding of all aspects of the Department of the Navy budget cycle, including planning, programming and budgeting formulation and execution.
2. The ability to identify, analyze and prepare effective and economic program alternatives. An ability to prepare and evaluate cost estimates.
3. The ability to manage and control funds, including appropriated, revolving and non-appropriated funds to support approved programs.
4. The ability to develop and review financial reports and analyze budget execution against operating and financial plans and to develop alternative plans and to develop alternative plans based on analyses of an activity's financial performance. An ability to recommend or make management decisions regarding the reallocation or reprogramming of funds.
5. A comprehensive knowledge of the principles of finance and business management, in both the public and private sectors, to support participation and leadership in the development, implementation and administration of fiscal policies, procedures, systems and controls to ensure the responsible use of available resources.
6. The ability to develop and use internal control and audit techniques to establish sound management controls and to evaluate financial reports and operating performance.

7. The ability to determine the unit costs of outputs and to use such costs in the analysis of performance and the allocation of resources.

8. An understanding of the acquisition process as it relates to procurement and development appropriations.

9. An understanding of joint and maritime strategic planning.

10. The ability to recognize issues of potential importance to the Navy, formulate a research program, perform the necessary research, and report the results[Ref. 6].

C. COMPARABLE CIVILIAN INSTITUTIONS

To find graduate programs at civilian institutions that could be used for comparison to the Financial Management program, It was necessary to find a common attribute that would show that the comparison of the programs was within the same frame of reference. The common attribute chosen was the award of the XX31P sub-specialty code. The assumption is that the award of the sub-specialty code would translate into similar acquired skills. Hence, comparing programs that conferred the same sub-specialty code would mean comparing programs of similar characteristics. It would then be a matter of searching for civilian programs that would meet the Educational Skill Requirements for the XX31P sub-specialty code for Financial Management. The Navy's civilian graduate education program maintains information on civilian programs that meet these sub-specialty code requirements.

The Navy's Fully Funded Graduate Education Program is a program that allows selected officers to attend civilian institutions to pursue graduate course work. This program is administered by the Manager of Civilian Institution Programs, under the office of the Director of Students and Programs at NPS. The Manager of Civilian Institution Programs is responsible for all officers enrolled in the program. One of the responsibilities of the manager is to facilitate the attending officer's acquisition of a sub-specialty code. The process requires the attending officer to petition a NPS academic department for review of a course of study for approval for a sub-specialty code. This approval process is done on case by case basis, usually by the Academic Associate for the relevant NPS curriculum. The approval process consists of the attending officer requesting, in writing, that his course of study be reviewed for applicability toward a sub-specialty code. Within the request, the attending officer will supply a detailed description of the courses to be taken and how, in union, they satisfy each of the Educational Skill Requirements for that sub-specialty code. The Academic Associate will review the request and make recommendations on whether the course matrix meets the Educational Skill Requirement's or changes that must be met prior to approval. It is the responsibility of the attending officer to make the

changes or seek alternative solutions to satisfy the Academic Associate's guidelines. It is an extensive process of scrutiny that generally takes months to complete.

For this thesis, I reviewed the academic records of those officers who are currently enrolled in approved XX31P sub-specialty code programs. There are currently four civilian graduate programs approved in which an attending officer will receive the (XX31P) sub-specialty code for Financial Management. In each of the four cases studied, the approved course of study was for a Masters of Business Administration (MBA) degree. The currently approved MBA programs are at Duke University, Harvard University, Northwestern University and the University of North Carolina at Chapel Hill. Each of these MBA programs is well respected and is ranked in the top twenty-five business schools in the nation[Ref. 7].

D. THE FULL COST OF TUITION

The Office of Management and Budget Circular Number A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, dated 29 October 1992, stipulates that when measuring costs of a federal program or policy, the full cost to society should be analyzed and not just the cost to the federal government. Tuition alone does not cover the entire cost of putting a student through a civilian graduate program.

Grants, research, endowment and federal and state subsidy monies are significant factors that help defray the amount that a school charges for tuition.

When discussing the costs of instruction at NPS, the data in this thesis represents the full cost that is incurred to deliver instruction within the Department of Systems Management. For a basis of comparison, it is necessary to compare NPS full cost of instruction to the full cost of instruction incurred by the selected civilian institutions.

Chapter III will discuss in more detail the methodology used to make the comparison between the Financial Management program at NPS and the MBA programs at the selected civilian institutions.

III. THE STUDENT ADMISSION MODEL

A. INTRODUCTION

The premise behind formulating this student admission model is that if NPS were to close or decided to discontinue its Financial Management program, the need for the sub-specialty code XX31P officers would still exist and would have to be satisfied at civilian institutions¹. If this were the case, then the pertinent question would be, what percentage of the student population would be accepted into an approved MBA program? Also, what are the alternatives for those students that do not meet the minimum standards for acceptance?

B. METHODOLOGY

In interviews with four of the leading MBA programs in the country, there is a continuing theme of their acceptance requirements. The criteria most commonly used in evaluating a student's potential for acceptance is:

1. GMAT scores
2. Overall undergraduate grade point average (GPA)
3. Student application and essay
4. Work History

¹The XX31P is a sub-specialty code assigned to officers who successfully complete the Financial Management program at NPS. This P-code can also be assigned to officers completing an approved MBA program at civilian institutions.

5. Assessment of the student's skills and how they would fit in at the school
6. Subjective assessment of managerial potential
7. Formal interview with school officials

It should be noted that each of the schools were somewhat reluctant to put these standards into absolutes and in fact pointed out that the subjective measurements were more heavily weighted. In particular, when discussing either GMAT or GPA scores, they were careful to disclose only the mean scores for the incoming students and pointed out that this is not the only yardstick that they measure a student against. This is understandable since they want to reserve the right to decide who to admit as a student without backlash from those potential students who are turned down.

Unfortunately, the limitations of this study did not afford me the opportunity to assess the current group of Financial Management students against each of these standards. However, the formulation of the admission model is used to illustrate that given some standard of admittance, not all of the Financial Management curriculum's current students would be accepted into an approved MBA program. Thus, the Navy would be forced with formulating alternatives for those students that do not meet the minimum requirements.

There are a number of assumptions I made about naval officers attending NPS when creating the admissions model. These were:

1. They would make good MBA candidates
2. They have the requisite work experience
3. They are highly motivated
4. They would make good managers

The amount of information available to discern a student's ability and likelihood of acceptance into an MBA program was limited. Although admission into an MBA program is a more comprehensive evaluation, I developed a simple admissions model that would discriminate for acceptance based on grade point average (GPA).

Students would be divided into three categories:

1. Direct acceptance into an approved MBA program
2. Conditional acceptance into an approved MBA program
3. Contract acceptance into an approved MBA program

The following definitions are used for each of the aforementioned categories. Direct acceptances are those students who have demonstrated a high overall academic proficiency and are likely to be accepted into an approved MBA program for the XX31P sub-specialty code. Conditional acceptances are those students who have demonstrated a moderate overall academic proficiency and may find it difficult to be accepted into an approved MBA program. These students would likely to be accepted at some civilian MBA program. However, these second tier MBA programs generally have an arduous time being approved for the XX31P sub-specialty code. Contractual acceptances are those students

who have demonstrated a below average overall academic proficiency and would find it difficult to be accepted into any MBA program that would be approved for the XX31P sub-specialty code. In this case, the Navy would have to contract with a civilian institution to waive the entrance requirements and provide the requisite course work necessary for the XX31P sub-specialty code.

For student placement within a category, the following rules were used for each of the categories. Direct acceptances would be those students who have an overall undergraduate GPA of 3.0 or greater². Conditional acceptances would be those students who have an overall undergraduate GPA between 2.7 and 3.0 or their GPA over the last two academic years was 3.0 or greater. Contractual acceptances would be for those students with a overall undergraduate GPA less than 2.7 and their last two academic years GPA was less than 3.0.³ It should be noted that these parameters are deliberately lenient in favor of a student being directly accepted into an approved MBA program. In fact, for the MBA programs chosen, the mean GPA for the entering class was significantly higher than the parameters I chose. Obviously, the higher the

²All Grade Point Average (GPA) numbers are based on a 4.0 scale.

³GMAT scores in conjunction with the GPA information would have provided for a better model. Unfortunately GMATs are not required for attendance at NPS and therefore were not available for inclusion.

than the parameters I chose. Obviously, the higher the overall GPA parameter, the lower the number of students falling into the direct acceptance category. While this model can be adjusted in a number of different ways to make the numbers come out differently, it this model is used primarily for illustrative purposes only.

In the next section, I present the current Financial Management students' academic profiles and where they place in the admission model.

C. APPLICATION OF THE ADMISSIONS MODEL

Recall that I identified the criteria that are commonly evaluated by Master of Business Administration (MBA) admission boards prior to a student being selected into a graduate program. Although admission into an MBA program is a more comprehensive evaluation, I have developed a simple admissions model that would discriminate for acceptance based on grade point average (GPA). It serves to highlight that even under the most favorable of standards, not all Financial Management students would be accepted into an approved MBA program. Table 3-1 is a compilation of a recent entering class of Financial Management students' undergraduate academic profiles.

TABLE 3-1

CURRENT FINANCIAL MANAGEMENT STUDENTS
DIRECT ACCEPTANCE CATEGORY
UNDERGRADUATE SCHOOLS ATTENDED⁴

- Virginia Polytechnical Institute
- Kearney State
- United States Naval Academy
- University of Missouri
- Northwestern University
- University of Houston
- Southern Illinois University
- University of Connecticut
- Mansfield State
- Notre Dame
- University of Alabama Birmingham
- University of Kansas
- Oregon State University
- University of San Diego
- Rutgers University

⁴Scholastic data and undergraduate school attended are not correlated to protect a student's right to privacy.

TABLE 3-1 (Cont)

**CURRENT FINANCIAL MANAGEMENT STUDENTS
DIRECT ACCEPTANCE CATEGORY
SCHOLASTIC DATA**

	<u>GPA</u>	<u>DEGREE</u>	<u>YR GRAD</u>	<u>LAST 2 YRS GPA</u>
1	3.25	BA BUS ADMIN	1980	3.30
2	3.44	BS ECON	1989	3.68
3	3.37	BA CHEM	1987	3.35
4	3.37	BS MECH ENG	1986	3.79
5	3.87	BS CHEM ENG	1988	3.87
6	3.80	BA SOCIOLOGY	1986	3.88
7	3.14	BS CHEM ENG	1987	3.23
8	3.42	BA MUSIC	1980	2.98
9	3.57	BS POL SCI	1987	3.86
10	3.25	BS ACCTG	1984	3.12
11	3.05	BS MECH ENG	1982	2.86
12	3.54	BS EDUCATION	1980	3.00
13	3.07	BA FINANCE	1980	3.00
14	3.37	BS MECH ENG	1986	3.31
15	3.64	BS CHEM ENG	1986	3.85
16	3.01	BS AERO	1987	2.92
17	3.42	BS PHY SCI	1986	3.96
18	3.01	BS MGMT	1980	3.09
19	3.03	BS AGRI	1980	2.65

TABLE 3-1 (Cont)

CURRENT FINANCIAL MANAGEMENT STUDENTS
CONDITIONAL ACCEPTANCE CATEGORY
UNDERGRADUATE SCHOOLS ATTENDED

- United States Naval Academy
- Southern Illinois University
- Michigan Technical Institute
- Massachusetts Maritime University
- Emory University
- Westmont University
- Marquette University
- State University of New York at Buffalo
- University of California San Diego
- Marshall
- San Diego State University
- University of Santa Clara
- Yale University

TABLE 3-1 (Cont)

**CURRENT FINANCIAL MANAGEMENT STUDENTS
CONDITIONAL ACCEPTANCE CATEGORY
SCHOLASTIC DATA**

	<u>GPA</u>	<u>DEGREE</u>	<u>YR GRAD</u>	<u>LAST 2 YRS GPA</u>
1	2.97	BA POL SCI	1983	2.72
2	2.81	BS FINANCE	1983	3.00
3	2.86	BS MGMT	1987	3.07
4	2.98	BA PSYCH	1986	NA
5	2.86	BA ECON	1982	2.87
6	2.72	BS POL SCI	1989	2.63
7	2.74	BS MGMT	1984	3.00
8	2.51	BS BUS ADMIN	1983	3.00
9	2.71	BS PHY ED	1978	3.06
10	2.72	BA BUS ADMIN	1986	2.95
11	2.93	BS INDUS TECH	1980	3.12
12	2.90	BS MAR TRANS	1985	3.05
13	2.92	BS ENG	1982	3.08
14	2.60	BS MGMT	1985	3.35
15	2.93	BS SYS ENG	1982	2.60

TABLE 3 1 (Cont)

CURRENT FINANCIAL MANAGEMENT STUDENTS
CONTRACT ACCEPTANCE CATEGORY
UNDERGRADUATE SCHOOLS ATTENDED

- United States Naval Academy
- University of Wisconsin
- University of Florida
- Canisius College
- University of New Hampshire
- University of California Riverside
- Saint John's University
- Washington State University
- Mississippi State University
- Notre Dame
- Duke University

TABLE 3-1 (Cont)

**CURRENT FINANCIAL MANAGEMENT STUDENTS
CONTRACT ACCEPTANCE CATEGORY
SCHOLASTIC DATA**

	<u>GPA</u>	<u>DEGREE</u>	<u>YR GRAD</u>	<u>LAST 2 YRS GPA</u>
1	2.27	BA ECON	1988	2.58
2	2.64	BA MATH	1989	NA
3	2.48	BS CHEM	1980	2.89
4	2.28	BA ECON	1980	2.38
5	2.48	BS OCEAN ENG	1981	2.63
6	2.34	BS ELEC ENG	1978	2.79
7	2.53	BA HISTORY	1979	2.48
8	2.34	BS MECH ENG	1987	2.48
9	2.50	BS PHY SCI	1985	2.48
10	2.49	BS ECON	1983	2.51
11	2.60	BS ECON	1981	2.45
12	2.48	BS CHEM	1988	2.43
13	2.67	BA ECON	1979	2.81
14	2.44	BS ACCTG	1982	2.72
15	2.49	BA CRIM JUST	1986	2.65
16	2.30	BS MECH ENG	1983	2.01
17	2.22	BS MECH ENG	1984	2.17

Recall that the admissions model was broken down into three acceptance categories:

1. Direct acceptances into a MBA program.
2. Conditional acceptance into a MBA program.
3. Contract acceptance into a MBA program.

Applying the admissions model using the Table 3-1 data, yields the following: 19 of 51 (37%) of the students would be directly accepted, 15 of 51 (29%) would be conditionally accepted and 17 of 51 (34%) would have to be contractually accepted into a MBA program.

These are not favorable results if over a third of NPS Financial Management students would find it difficult to be placed in comparable civilian programs. These figures reinforce the point that NPS is capable of transitioning a highly motivated officer to meet all requirements to receive a masters degree within the Department of Systems Management. This is a significant factor because NPS produces approximately 80% of the officers who fill financial manager billets in the fleet. The NPS accomplishes this considerable feat with a greater than 99% graduation rate of its students⁵.

⁵Interview with the Department of Systems Management's Curricular Officer of 05 April 1994.

D. THE CIVILIAN INSTITUTIONS CHOSEN FOR COMPARISON

Recall from Chapter II, four MBA programs were chosen for comparison:

- Harvard Business School
- Duke University, Fuqua School
- Northwestern University, Kellogg School
- University of North Carolina, Kenan-Flagler School

These MBA programs were chosen because all four have approved course matrix plans by the Department of Systems Management's Academic Associate for Financial Management. These plans meet the minimum requisite Educational Skill Requirements for the XX31P sub-specialty code for Financial Management.

It is important to remember that the Financial Management program at NPS is 18 months in length. Each of the four MBA programs is 21 months in length beginning in September of the first academic year of acceptance. All four are highly structured programs in which the core requirements are offered in the first academic year and the elective courses are completed in the second academic year. None of the programs begins other than in September or offer the ability to accelerate the MBA program to finish earlier than the prescribed 21 month time frame⁶.

⁶Northwestern University will waive up to the first year of the MBA program to students with strong undergraduate academic records in management or business administration. This waiver is granted after school review, on a case by case basis.

Recall from Chapter II, the ESRs for the Financial Management program also included military applications that are not offered at civilian institutions. Specifically, ESRs (1), (8) and (9) deal with budgeting within the Department of the Navy (DON), the defense systems acquisition process and understanding of joint and maritime strategic planning, respectively.

To satisfy the requirement for budgeting within the Department of the Navy, each proposed civilian program used the Practical Comptroller Course (PCC) offered at NPS. This is a shortened version of MN3154, Financial Management in the Armed Forces, which is a core course for Financial Management students which is used to satisfy that particular ESR. The Practical Comptroller Course is a two week course of instruction that is offered six times a year to both military and civilian DOD personnel who will be filling comptroller billets. Five of the course dates are at NPS. The sixth date is offered, on a revolving basis, at several sites on the east coast.

To satisfy the requirement for instruction in the military acquisition process, three of the four proposals used an independent research paper that focused on the military's acquisition process. The fourth proposal, substituted a course in systems acquisitions management taught by the Defense Systems Management College at Hanscom Air Force Base.

None of the four proposals addressed the ESRs dealing with joint and maritime strategy or the required thesis. These particular ESRs were waived in conferring the XX31P sub-specialty code for the civilian program.

The effect of satisfying the military aspects of the Financial Management ESRs basically comes down to the fact that the student will have to spend an additional two weeks of instruction for the Practical Comptroller Course. The additional expense of the student's time and travel costs will have to be factored in when comparing the costs of the civilian MBA programs to that of the Financial Management program at NPS. These costs will be estimated and included in the Chapter V analysis.

IV. THE CONCEPT OF UNIT COSTING

A. INTRODUCTION

This chapter will provide a synopsis of the concept of unit costing. I will discuss unit cost definitions and methods for allocating and selection of cost objects.

B. WHAT IS UNIT COSTING?

Unit costing is the identification of the full cost or resources consumed to produce an end product or output of an activity. In the case of Naval Postgraduate School, the end product can be derived from the school's two primary mission areas:

1. Award Naval Officers with masters degrees to fill required billets within the Department of the Navy.
2. Conduct research that is beneficial to the Department of Defense and Department of the Navy.

Graduates and research are not the only outputs of NPS. There are many measurable end products that NPS produces. However the unit costs of an organization should incorporate the total costs of an organization and apply them to their primary output(s). In the case of NPS, all costs must somehow be applied to either the cost of producing a graduate or conducting research.

C. UNIT COST PROCEDURES

Unit costing, as applied by the Department of Defense (DOD), is an initiative to implement full cost accounting procedures. This would entail collecting financial data in such a way that it can measure the full cost of resources consumed to produce a primary output of an organization. Full costs include all direct, indirect and general and administrative expenses associated with the production of a primary output. The Department of Defense has mandated that the primary output to be measured for training commands is the number of graduates produced. Since the DOD has designated NPS as a training activity, NPS's output would be measured by the number of graduates produced.

The intention of unit costing is to provide managers with tools to serve in resource and budget planning as well as to identify costs as they relate to the organization's output. This visibility of costs serves to highlight areas of possible efficiency or productivity gains. The DOD guidance on unit cost management noted that:

Unit costs will not directly provide a cost savings. It will help to better identify costs but not eliminate them. However, recognition of total costs coupled with greater flexibility to manage costs provides the opportunity for improvement[Ref. 8].

One pitfall that managers should be aware of is that unit costing tends to treat all costs as variable. It is not safe to assume that costs will vary directly with a greater or lesser amount of production. A manager must be aware of which

of his costs are variable versus those that are fixed, for a given level of production. This study of unit costing exemplifies the difference between average costs and marginal costs. Unit costing shows the average cost of resources consumed and does not highlight the cost of the last unit of resource consumed to produce an output. This is an important factor that managers should be aware. Although unit costing is a powerful management tool, there is no substitute for knowing your product costs and how they behave at various levels of output.

D. UNIT COSTING AT NPS

At this point it is important to define the components of full cost.

1. Cost Classifications

a. Direct costs are those costs that are clearly attributed to a single mission or primary output. For example, at NPS a percentage of an instructor's salary can be clearly attributed to the production of graduates based on the amount of time spent teaching.

b. Indirect costs are those costs that are attributed to more than one mission or primary output but can not be distinguished as to which one. For example, at NPS the Systems Management Department chairman's salary can be clearly attributed to the Systems Management Department but can not be

distinguished between the mission outputs of graduates or research. His job is to be a benefit to both mission areas and can not be assigned to just one.

c. General and Administrative costs are those costs that are incurred for the benefit of all outputs. For example, at NPS the base police costs are clearly for the benefit of all outputs and can not be assigned to just one department or mission area.

2. Cost Aggregation and Allocation

To arrive at a unit cost, all applicable costs must first be aggregated into one of three cost pools: direct costs, indirect costs or G&A costs. The direct cost pool will aggregate all the direct labor and non-labor costs that are clearly attributed to the cost of instruction within the Systems Management Department.

Indirect and G&A costs have to be allocated to cost objects (i.e., school mission)⁷. For an allocation method to be considered proper, there should be a demonstrated relationship. The cost allocation process is composed of two stages. The first stage allocates costs to responsibility centers; the second stage allocates responsibility centers costs to units.[Ref. 9]

⁷ Throughout this thesis I will be referring to "school mission area", "cost object" and "cost of instruction". These are all in reference to the unit cost measure, cost of instruction per year per student in the Systems Management Department.

At NPS, the indirect cost pool would aggregate all indirect labor and non-labor costs that were clearly attributed to the primary outputs but that are not distinguishable between Departments. These indirect costs fall into three categories. Indirect costs can be attributed to:

1. The cost of instruction only
2. The cost of instruction and research but not distinguishable between the two
3. The cost of research only

Three examples will help clarify these categories.

1. The Director of Students and Programs is charged with the overall management of students at NPS. His costs are associated with the instruction of students but can not be identified to a particular department. Thus, his costs are considered indirect for instruction only.

2. The Office of the Provost is responsible for all academic activity at NPS. His office impacts both the instruction of students and the conduct of faculty research but can not be distinguished to that of a particular department. His costs are considered indirect for instruction and research.

3. The Dean of Research controls the assignment and funding of research but not in a particular department. His costs are considered indirect for research only. The indirect costs of NPS are aggregated into one of these three cost categories.

Once the indirect costs are aggregated into one of the three previously mentioned categories, they must be allocated to the academic departments as either a cost of instruction or a cost of research. This is done based on some common attribute that shows a reasonableness of how they were incurred⁶. At NPS, records are kept documenting the amount of time, in man-years per fiscal year, that was spent in the pursuit of either instruction, research or both. In Chapter V, multipliers are developed to allocate these costs based on the amount of time an academic department spends pursuing either instruction or research. The rationale and allocation method will be discussed in more detail in that chapter.

The General and Administrative (G&A) cost pool would aggregate all those costs that are incurred for the benefit of all outputs. This pool would include non-labor costs, base operating support, maintenance of real property, and other salaries not already apportioned. Again, these costs have to be allocated to the departments based on some common attribute that reflects a reasonable basis of how these costs were incurred. The allocation of G&A costs requires a two step process. The first process is to allocate that portion of the total G&A costs to a particular department based on the number of persons assigned to that department. The second allocation

⁶This thesis is only concerned with the cost of instruction within the Department of Systems Management. Costs associated with research are not considered.

process is to apportion the allocated departmental G&A costs to either the instruction or research output. Again, multipliers were developed based on the number of man-years dedicated to either instruction or research within the Department of Systems Management. The multiplier represents a percentage of time spent either instructing or doing research within the department. Further amplification of the allocation methods will be presented in Chapter V.

3. Output Measurement at NPS

The Hunter and Hicks study recognized the difficulty of using graduates at NPS as the unit of output for the cost of instruction.

...counting the number of graduates in a given year would not accurately reflect the workload in that year. Since academic curricula are of varying length, simply counting the number of graduates would either understate or overstate the actual workload[Ref. 10].

The curricula within the Department of Systems Management vary between 18 to 21 months to complete. For this reason, I borrowed the Hunter and Hicks surrogate measure of output at NPS, namely the average number of students on board in a given year. Fortunately, this information is tracked by the office of the Director of Students and Programs. The average number of students on board is kept by curriculum number. To arrive at a unit cost for instruction within the Department of

Systems Management for fiscal year 1993, simply divide the full costs to instruct those students by the average number of students on board in fiscal year 1993.

The Hunter and Hicks thesis involved developing a unit cost model for the school's primary outputs of instruction and research. Chapter V will apply their modeling techniques to arrive at a unit cost of instruction for students within the Department of Systems Management.

V. COST DATA COLLECTION AND PRESENTATION

A. INTRODUCTION

The focus of this study is to compare the cost and benefits of graduate education currently provided by the Department of Systems Management at NPS to selected MBA programs. One of the premises of this thesis is that NPS is able to deliver a comparable level of education and fulfill the requirements of the resource sponsor at a competitive price compared with civilian institutions. To do this required conducting field work, review of relevant documentation and interviews with key personnel. This chapter serves to identify cost data sources and present my findings.

B. UNIT COST REPORTING

The goal of a unit cost reporting would be to aggregate all the costs of the resources consumed to produce a cost object. In the simplest unit cost models, costs would be assigned to one of three cost pools; direct, indirect or G&A costs. As described in Chapter II, direct costs are those costs that can be directly related to the production of the cost object, while indirect and G&A costs must be allocated to the cost object based on the reasonableness of how the resources were consumed.

Unit cost reporting has been recognized by the Department of Defense as a way to provide the visibility of costs to managers of military installations. However, unit cost reporting procedures have not been implemented at NPS. The Hunter and Hicks thesis built a unit cost model from the existing accounting data and applied it to cost objects.

C. COST OBJECTS AT NPS

The Naval Postgraduate school provides professional developmental education. NPS is also an academic institution whose emphasis is on study and research programs that further the interests of the Department of the Navy as well other Department of Defense areas. The programs at NPS were specifically designed to accommodate the unique requirements of the military. To find the appropriate cost objects at NPS, Hunter and Hicks went to the school's mission statement:

The Naval Postgraduate School exists for the sole purpose of increasing the combat effectiveness of the Navy and Marine Corps. It accomplishes this by providing post-baccalaureate degree and nondegree programs in a variety of subspecialty areas not available through other educational institutions. NPS also supports the Department of the Navy through the continuing programs of naval and maritime research and through the maintenance of an expert faculty capable of working in, or as advisors to, operational commands, laboratories, systems commands, and headquarters activities of the Navy and Marine Corps[Ref. 11].

Thus, the primary mission of NPS is to provide instruction and research. Additionally, NPS also provides service support to tenant activities as a secondary mission. It was the intent

of the Hunter and Hicks model to aggregate costs and apply them to the two primary mission areas of NPS. As a secondary issue, they were concerned with how tenant commands would reimburse NPS for the services that it provided. This thesis takes the fundamental attributes of the Hunter and Hicks unit cost model and concentrates on providing cost allocation to the mission of instruction within the Department of Systems Management.

D. SOURCE AND CLASSIFICATION OF COST DATA

All financial data was made available by the Comptroller at NPS. This office promulgates budgets, collects cost information and analyzes variances between the actual and budgeted figures. The Comptroller provided the financial information and also explained how the financial organization functions at NPS. Man-year data was used as the basis for allocating indirect costs. This information is tracked by the Director of Academic Planning within the Office of the Provost.

Once budgets are promulgated, accounting and the control of costs are conducted through military and civilian administrators known as line managers. Each line manager is tasked with a specific area of school operations. The line managers are held accountable for meeting their budgets.

Direct costs at NPS are accounted for by mission area within each academic department and are easily identified. The Hunter and Hicks model however had to justify and classify the expenditures of each line manager (LM) as either indirect or G&A costs. They did this by analyzing each of the line managers organizational relationships to the three mission areas (instruction, research or tenant support). They then classified the line manager's costs based on which mission area(s) they supported.

Below is a description of the existing line manager organization and how Hunter and Hicks classified their cost of operations.

a. LM: 00 Office of the Superintendent

The Superintendent is responsible for the overall mission of NPS including tenant activities. His costs are clearly for the benefit of the three school mission areas and are classified as G&A.

b. LM: 01 Office of the Provost

The Provost oversees all academic activity at NPS. His office impacts on both instruction and research but not the tenant activities. His costs are classified as indirect in support of instruction and research.

c. LM: 02 Director of Resource Management

This office is responsible for the management of the school's financial resources. All mission areas benefit from their service. Thus, these costs are considered G&A.

d. LM: 03 Director of Students and Programs

This office is responsible for the management of curricula and the conduct of students. This office is concerned mainly with instruction and has little to do with research. These costs are considered indirect in support of instruction only.

e. LM: 04 Director of Military Operations

This Office is responsible for the physical components of NPS by providing support functions to the school and tenant activities. These costs are considered G&A.

f. LM: 05 Dean of information and Computer Services

This office administers all data processing functions conducted at the NPS computer center. They are also tasked with overseeing the school's library. This office provides support functions to all mission areas as well as tenant activities. These costs are considered G&A.

g. LM: 06 Dean of Instruction

This office controls the scheduling functions that are related to students. Mainly their activities are concentrated with the registrar, admissions and course scheduling. Since these costs are incurred for the benefit of students only, these costs are considered indirect for instruction only.

h. LM: 07 Dean of Faculty and Graduate Studies

This office is responsible for the overall control of academic department personnel and tracks how much time is

spent in the pursuit of research and instruction. Many of the costs of this office can be directly traced to academic departments by either instruction or research. It is only the costs of the Dean's immediate office that can not be clearly associated with an individual academic department and therefore are considered indirect for instruction and research.

i. LM: 08 Dean of Research

This office controls the assignment and funding of research projects from a school-wide perspective. Since these costs are associated with research and not with instruction, they are considered indirect for research. Since I am not concerned with the costs associated with research, these costs are not considered in this thesis.

E. COMPLETION OF THE UNIT COST MODEL

I will use the financial data collected to derive a unit cost per student in the Department of Systems Management. In doing this, I will discuss and identify each of the three cost pools and how they are applied in the Hunter and Hicks unit cost model. For clarification purposes, all data relating to labor costs in this chapter can be found in Appendix A. All non-labor costs referred to in this chapter can be found in Appendix B.

1. Direct Costs

a. Direct Labor Costs for Instruction

Direct labor costs are represented by the salaries of personnel whose efforts can be clearly identified with the production of graduates in the Department of Systems Management. These personnel include civilian faculty, lab technicians, academic departmental clerical personnel and military instructors. I will deal with each direct labor cost in turn.

b. Civilian Direct Faculty Labor Costs for Instruction

Exhibit 5-1⁹ is the fiscal year 1993 faculty budget plan. This document (as well as Exhibits 5-2 and 5-3) was obtained from the Director of Academic Planning at NPS. The fiscal year 1993 faculty budget plan is the breakdown of the costs associated with civilian faculty as it applies to the two mission areas of instruction and research for each academic department. Each department chairman is required to track the amount of time that faculty members spend instructing and conducting research. Since I am only concerned with the cost of instruction in the Department of Systems Management, the figure of concern is found at the

⁹All exhibits in this chapter will be presented in Appendix A.

intersection of the (AS)¹⁰ line and the Direct Teach Total (DTT) column. This figure represents the cost of salaries associated with instruction provided by the civilian faculty in the Department of Systems Management. It is important to note that this tabulated cost does not include civilian faculty fringe benefit costs of 21.6%. The fringe benefit percentages represent the cost of the non-salary compensation received by civilian employees at NPS¹¹. All fringe benefit percentages are calculated by the office of the comptroller at NPS. Civilian labor costs are multiplied by 1 plus their respective fringe benefit percentage and these costs are added to arrive at a total cost for civilian labor.

c. Civilian Direct Clerical Labor Costs for Instruction

Exhibit 5-2 is the fiscal year 1993 mission staff budget/execution plan. It is a breakdown of costs associated with the Dean of Faculty and Graduate Studies (Line Manager Code 07). The costs represented in this Exhibit are the civilian labor costs of assigned clerical and lab technicians for each academic department, clerical personnel of the

¹⁰The Department of Systems Management had its name officially changed from the Department of Administrative Sciences in 1994. The symbol (AS) stands for the Department of Administrative Sciences.

¹¹Fringe benefits represent the cost of the government's share of the civilian employee retirement, life insurance, health insurance, social security, and thrift savings plans.

immediate office of the Dean of Faculty and Graduate Studies, and clerical personnel in support of the Academic Groups. The figure of concern is found at the intersection of the "Admin Science" (AS) line and the "Other Total" (OTT) column. This figure represents the cost of salaries associated with civilian clerical personnel in the Department of Systems Management used in the mission of instruction. It is important to note, that this tabulated cost does not include civilian clerical personnel fringe benefit cost of 23.6%. As in the case of Exhibit 5-1, Exhibit 5-2 costs must be multiplied by 1 plus the fringe benefit factor to arrive at the total direct civilian clerical labor cost for the Department of Systems Management.

The direct civilian labor costs for instruction were determined by first multiplying the "Direct Teach Total" in the (AS) row of Exhibit 5-1, by a factor of 1.216. Second, the "Other Total" figure in the (AS) row of Exhibit 5-2 was multiplied by a factor of 1.236. These calculations are presented in Table 5-1.

d. Military Direct Labor Costs for Instruction

Military direct labor costs for instruction are represented by the pay of officers assigned to the Department of Systems Management as academic instructors and to the curricular office. This cost is determined by using a listing of the current military officer instructors and curriculum

TABLE 5-1
**SUMMARY OF
 DIRECT COSTS FOR INSTRUCTION
 1993**

Department of Systems Management

<u>Direct Labor Costs</u>	
Civilian Faculty Labor Costs	3,030,255
Civilian Mission Staff Costs	383,282
Military Faculty	859,205
Military Support	173,065

Total Direct Labor Costs	4,445,807
 <u>Direct Non-Labor Costs</u>	
Non-Travel (Includes OPTAR)	86,900
Travel	16,000

Total Direct Non-Labor Costs	102,900
 Total Direct Costs for Instruction	 4,548,707

TABLE 5-1 (Cont)

BREAKDOWN OF DIRECT COSTSDepartment of Systems ManagementCivilian Direct Labor Cost for Instruction

<u>Cost</u>	<u>Fringe multiplier</u>	<u>Total</u>
2,491,986	1.216	3,030,255

Civilian Direct Labor Costs of Clerical and Lab Personnel

<u>Cost</u>	<u>Fringe multiplier</u>	<u>Total</u>
310,099	1.236	383,282

Military Direct Labor Costs for InstructionFaculty

<u>paygrade</u>	<u>onboard</u>	<u>annual composite rate</u>	<u>total</u>
CDR	4	100,706	402,824
LTC (Army)	2	100,803	201,606
LCDR	3	84,925	254,775

Curriculum Support

<u>paygrade</u>	<u>onboard</u>	<u>annual composite rate</u>	<u>total</u>
CDR	1	100,706	100,706
LT	1	72,359	72,359

Total Military Direct Labor Costs for Instruction 1,032,270

Direct Non-Labor Costs for Instruction

<u>Non-Travel</u>	<u>Travel</u>
8,900	16,000
78,000	

Total Direct Non-Labor Costs for Instruction 102,900

support within the department and applying the appropriate annual composite pay rates from NAVCOMPT Notice 7041. These costs are presented in Table 5-1. The primary responsibility of military officers assigned to academic departments is in the instruction of students. Since none of an officer's time is spent in pursuit of research, all officer costs associated with a department are considered direct costs for instruction. I realize that there are some instances when an officer will be afforded the opportunity to participate in research but their time is not accounted for as their civilian faculty counterparts. So for the purpose of this model, the assumption is that all labor costs for military officers assigned to the Department of Systems Management are considered direct costs for instruction.

e. Direct Non-Labor Costs for Instruction

These costs are all non-labor costs that can be directly attributed to a particular academic department. Non-labor funds are allocated to each of the nine line managers as identified earlier in this chapter. Each line manager is treated as a responsibility center where funds are allocated and costs accumulated. The allocation of funds takes the form of a financial plan. These plans are controlled and tracked by the office of the comptroller. Although they do not represent the actual expenditures by each line manager, they do act as his budget that must be worked within. Several

conversations with the NPS comptroller assured me that the deviation from the budgeted figures and actual expenditures are not significant enough to impact the model.

Direct non-labor costs for each academic department are first allocated to the Dean of Faculty and Graduate Studies (LM 07) and then are further allocated to each academic department's mission area of instruction or research. Within each academic department's mission area, these direct non-labor costs are further identified as either travel or non-travel. Dollar figures are taken from appendix B (NPS Financial Plan Travel Report and Financial Plan OPTAR Report). Table 5-1 is a summary and breakdown of the direct costs for instruction within the Department of Systems Management.

2. Indirect Costs

a. Allocation of Indirect Costs

In the Hunter and Hicks model, indirect costs are defined as those costs that relate to the mission areas of instruction and research but cannot be clearly assigned to an individual department. To allocate the indirect labor and non-labor costs to an academic department, it must be demonstrated that there is some common attribute that shows a reasonableness of how these costs were incurred. To do this Hunter and Hicks used man-year figures that are assigned to instruction or research for a given fiscal year. In this

case, fiscal year 1993 man-year figures were obtained from the Director of Academic Planning at NPS. This provides a breakdown, by academic department, of the total faculty effort devoted to both instruction and research as measured in man-years. To allocate the indirect labor and non-labor costs to instruction, research or both, Hunter and Hicks derived separate multipliers for each of the academic departments using man-years as the allocation basis. In this case, I am only concerned with the Department of Systems Management, thus I only derived the multipliers that are applicable to this study.

An allocation base is a measure that can be directly related to two or more cost objects and is considered to approximate the proportion of a common cost shared by two or more cost objects[Ref. 12]. In this case, the common attribute that measures the activities between academic departments is the amount of man-years used in the pursuit of instruction and research. The multiplier that is derived is simply that fractional representation of the amount of time devoted to a mission area within a department divided by the total amount of time used in pursuit of that mission NPS wide. An example: The allocation of the indirect costs of the Dean of Faculty and Graduate Studies (LM 07) to the mission area of instruction in the Department of Systems Management. Recall from above, indirect costs of line managers are grouped in three ways:

1. associated with instruction only.
2. associated with research only.
3. associated with instruction and research.

Recall that the indirect costs associated with the Dean of Faculty and Graduate Studies (LM 07) are to be allocated to both instruction and research. To arrive at the multiplier for instruction for the costs that are allocated to both instruction and research, the numerator is the number of man-years devoted to instruction within the Department of Systems Management and the denominator is the total number of man-years devoted to instruction and research by all academic departments. Multiplying the fractional representation for instruction in the Department of Systems Management by the total indirect costs from the Dean of Faculty and Graduate Studies gives the allocation of those costs to the cost of instruction in the Department of Systems Management.

My concern is with the costs of instruction, thus I only have to derive two sets of multipliers to allocate the indirect cost pool. Computation of the instruction allocation multipliers for the Department of Systems Management are presented in Table 5-2. These costs are grouped into two categories: instruction and research, and instruction only. To arrive at the instruction and research multiplier, I summed the total man-years for all the academic departments (DTY+DRY+RMY) to determine the denominator of the allocation base. The numerator was obtained from the Direct Teach (DTY)

TABLE 5-2

**COMPUTATION of INSTRUCTION ALLOCATION
MULTIPLIERS FOR INDIRECT COSTS**

Total FY93 Academic Department Man Years (MY)

Instruction (DTY)	174.95
Research (DRY+RMY)	128.72

Total Academic Dept MY	303.67

* Note: Total Academic Department Man-Years exclude Aviation Safety and Administrative Man-Year Totals.

Department of Systems Management Allocation Multipliers

For Instruction and Research cost pool

Total Instruction MY (Dept)/Total MY (DTY+DRY+RMY)	
	$32.15/303.67 = .1059$

For Instruction only cost pool

Total Instruction MY (Dept)/Total Instruction MY (DTY)	
	$32.15/174.95 = .1838$

column for the (AS) row in Exhibit 5-3. The instruction only multiplier was derived by substituting total instruction man-years (DTV column) for the total man-years (DTV+DRY+RMY column) in the denominator.

b. Indirect Labor Costs for Instruction

Indirect labor costs are those costs associated with NPS line managers previously identified in this chapter as having an indirect supporting role in the production of graduates. Recall that these line managers are the Provost (LM 01), Director of Students and Programs (LM 03), Dean of Instruction (LM 06) and Dean of Faculty and Graduate Studies (LM 07) (Dean's staff and Academic Groups only). Since I am concerned with the cost of instruction, any line manager cost that is associated with research only can be ignored. This subsection will identify those civilian and military labor costs that are associated with these line managers.

The source documents for determining civilian staff costs are Exhibits 5-1, 5-2 and 5-4. As encountered with direct costs, these exhibits do not include the fringe benefit costs. Their annual costs were derived by multiplying the costs associated with each identified line manager by 1 plus the fringe benefit factor.

Line managers 03 and 06 were the only ones that had military officers assigned to them for the purposes of indirect labor costs. Other military labor costs will be

addressed in the G&A cost section of this chapter. The annual military costs associated with line managers 03 and 06 were derived by obtaining a list of military officer billets associated with those line managers and summing the appropriate annual composite pay rates for those billets. It was necessary to verify that each authorized billet was in fact filled during fiscal year 1993.

These costs are aggregated into either instruction and research or instruction only pools, for allocation. The aggregation and allocation of the indirect labor costs are summarized and broken down in Table 5-3.

c. Indirect Non-Labor Costs for Instruction

The following line manager's non-labor costs are considered indirect: Provost (LM 01), Director of Students and Programs (LM 03), Dean of Instruction (LM 06) and Dean of Faculty and Graduate Studies (LM 07). Again, these costs have to be allocated to the academic departments using the multipliers derived earlier.

The costs associated with line manager 01 are considered in support of both instruction and research. The only cost of line manager 07 that was indirectly allocated to the academic departments were those costs that could not be directly traced to a particular academic department. Line manager 07's indirect costs are of note because you can identify those indirect labor costs that are associated with

TABLE 5-3
SUMMARY OF
INDIRECT COSTS FOR INSTRUCTION
1993

Allocation of Indirect Labor Costs and Aggregation
Department of Systems Management

Line Manager 01	(1,115,738) (.1059)=	118,157
Line Manager 06, 03, 07	(2,929,929) (.1838)=	538,521

		656,678

*Allocation of Indirect Non-Labor Costs and Aggregation
Department of Systems Management

Line Manager 01, 07	(912,000) (.1059)=	96,581
Line Manager 03, 06	(3,339,300) (.1838)=	613,763

		710,344

* The indirect non-labor costs are derived in TABLE 5-4

Aggregate of Indirect Costs for the	
Department of Systems Management	1,367,022

TABLE 5-3 (Cont)

BREAKDOWN OF INDIRECT COSTS

Indirect Labor Costs

Labor Costs Allocated to both Instruction and Research

Line Manager 01, Civilian Labor Costs

Salaries	(155,629) (1.236) = 192,357
Admin Support	(747,072) (1.236) = 923,381

Total Costs Allocated to both instruction and research	----- <u>1,115,738</u>
--	---------------------------

Labor Costs Allocated to Instruction Only

Line Manager 06, Dean of Instruction

Salaries	(334,417) (1.236) = 413,339
Salaries (military)	(84,925) (1LCDR) = <u>84,925</u>
	<u>498,264</u>

Line Manager 03, Director of Programs

Salaries	(990,987) (1.236) = 1,224,860
Salaries (military)	945,711
	<u>2,170,571</u>

Line Manager 07, Dean of Faculty (Office)

Salaries	(105,089) (1.236) = 129,890
Academic Group (Instruction)	(106,152) (1.236) = 131,204

261,094

Total Labor Costs Allocated to Instruction Only	2,929,929
---	-----------

TABLE 5-3 (Cont)

**Breakdown of Military Labor Costs
Line Manager 03**

<u>Rank</u>	<u>Service</u>	<u>#onboard</u>	<u>Rate</u>	<u>Total</u>
06	USN	3	119,249	357,747
05	USN	1	100,706	100,706
05	USAF	1	100,803	100,803
05	USMC	1	100,706	100,706
04	USN	1	84,925	84,925
04	USA	1	85,722	85,722
03	USN	1	72,359	72,359
01	USN	1	42,743	42,743
Total LM 03 Military Labor Costs				<u>945,711</u>

instruction only but their indirect non-labor costs can not also be identified to instruction only. Thus line manager 07's indirect non-labor costs are allocated to both instruction and research.

The indirect non-labor costs of line managers 03 and 06 support instruction and not research. Consequently their costs are allocated to instruction only.

Indirect non-labor costs are taken from the financial plans that are generated and tracked by the office of the comptroller at NPS. These plans provide each line manager a budget for non-labor costs in which to work from. All non-labor costs of the line manager that are related to travel will be charged to the travel account. All non-labor costs that are not associated with travel (i.e., office supplies) will be charged to the non-travel account. These are the only two accounts that track the expenditures for indirect non-labor costs associated with a line manager. Table 5-4 is the aggregation and allocation of indirect non-labor costs.

3. General and Administrative Costs

The G&A cost pool would aggregate all those costs that are incurred for the benefit of all outputs at NPS. The Hunter and Hicks model identifies the costs associated with line managers, Superintendent (LM 00), Director of Resource Management (LM 02), Director of Military Operations (LM 04) and Dean of Information and Computer Services (LM 05) as G&A

TABLE 5-4

INDIRECT NON-LABOR COSTS

<u>Line Manager</u>	<u>Code</u>	<u>Non-Travel</u>	<u>Travel</u>	<u>Total</u>
01	B01	71,000	15,000 =	86,000
* Allocated to both Instruction and Research				
03	D03	133,000	18,800	
	D04	253,500	20,000	
	E3A	2,577,000		
	P11	40,000		
		-----	-----	
		3,003,500	38,800 =	3,042,300
* Allocated to Instruction only				
06	M08	282,000	5,000	
	P11	10,000	-----	
		292,000	5,000 =	297,000
* Allocated to Instruction only				
07	J05	25,000	58,000	
	J06	543,000		
	P11	200,000		
		-----	-----	
		768,000	58,000 =	826,000
* Allocated to both Instruction and Research				

Allocate to Instruction and Research

<u>Line Manager</u>	<u>Costs</u>
01	86,000
07	826,000
	<u>912,000</u>

Allocate to Instruction Only

03	3,042,300
06	<u>297,000</u>
	<u>3,339,300</u>

costs. These costs have to be allocated to the departments and all tenant commands based on some common attribute that reflects a reasonable basis of how these costs were incurred. Later in this section an explanation of the two stage allocation process will be presented.

The G&A cost pool consists of the following four components:

1. Non-labor expenses.
2. Base operating support (BOS)
3. Maintenance of real property (MRP).
4. Other labor costs.

**a. *Non-Labor Expenses, Base Operating Support (BOS)
and Maintenance of Real Property (MRP)***

The first four components of the G&A cost pool, non-labor costs, BOS and MRP expenses were readily available from the financial plan provided by the office of the comptroller. As seen before with other non-labor cost information, the expenses were broken up into two categories; travel and non-travel costs. For each of the aforementioned line managers, Table 5-5 summarizes all of the G&A costs as well as a breakdown of the non-labor costs. It is important to note that the non-labor costs associated with the Director of Military Operations (LM 04) include both the non-labor costs of his organization as well as the BOS and MRP expenses

TABLE 5-5

**SUMMARY OF G&A COSTS
1993**

CostsNon-labor, BOS and MRP

Non-Travel	8,520,200
Travel	128,600

Other Labor Costs

Enlisted Salaries	3,433,951
LM 05	3,268,691
LM 00 (Military)	478,479
LM 00 (Civilian)	350,000
LM 02 (Military)	100,706
LM 02 (Civilian)	1,518,516
LM 04 (Military)	1,465,440
LM 04 (Civilian NonPW)	3,517,500
LM 04 (Civilian PW)	<u>3,888,000</u>
Total G & A Costs	<u>26,670,083</u>

TABLE 5-5 (Cont)

**BREAKDOWN OF
G&A COSTS**

<u>Non-Labor, BOS and MRP Costs</u>			
<u>LM Code</u>	<u>Budget Code</u>	<u>Non-Travel</u>	<u>Travel</u>
00	A00	39,000	48,600
	A02	46,700	4,000
02	L07	181,000	5,000
	L08	288,000	2,000
05	C14	1,864,000	42,000
04	F04	458,500	18,800
	G4A	3,663,000	
	G4B	205,000	
	G4C	154,000	
	H4B	1,510,000	
Gen'l Printing	P1	22,000	
	P2	9,000	
	P4	38,000	
	P5	13,000	
	P9	4,000	
Public Affairs	PA0	25,000	8,200
Total Non-labor costs		8,520,200	128,600
			<u>8,648,800</u>

TABLE 5-5 (Cont)

OTHER LABOR COSTSMILITARY SALARIESNPS Enlisted Personnel

<u>Rank</u>	<u>Number</u>	<u>Rate</u>	<u>Total</u>
E9	2	66,067	132,134
E8	2	56,032	112,064
E7	9	48,239	434,151
E6	19	41,114	781,116
E5	41	33,853	1,387,973
E4	16	27,996	447,937
E3	4	27,996	95,224
E2	2	21,651	43,302
Totals	<u>95</u>		<u>3,433,951</u>

Line Manager 00

<u>Rank</u>	<u>Number</u>	<u>Rate</u>	<u>Total</u>
O8	1	148,130	148,130
O5	1	100,706	100,706
O4	1	84,925	84,925
O3	2	72,359	144,718
Total			<u>478,479</u>

Line Manager 02

<u>Rank</u>	<u>Number</u>	<u>Rate</u>	<u>Total</u>
O5	1	100,706	100,706

Line Manager 04

<u>Rank</u>	<u>Number</u>	<u>Rate</u>	<u>Total</u>
O6	2	119,249	238,498
O5	4	100,706	402,824
O4	4	84,925	339,700
O3	2	72,359	144,718
Total			<u>1,465,440</u>

TABLE 5-5 (Cont)

CIVILIAN SALARIES

Line Manager 00

<u>Code</u>	<u>Cost (with fringe)</u>
00	33,000
005	106,000
006	26,000
009	<u>105,000</u>
Total	<u>350,000</u>

Line Manager 02

<u>Code</u>	<u>Cost (with fringe)</u>
21	887,524
22	519,987
23	<u>131,000</u>
Total	<u>1,518,516</u>

Line Manager 04

Non Public Works

<u>Code</u>	<u>Cost (with fringe)</u>
FD/FIRE	682,000
FF	250,500
FG	1,293,000
FG/M2	36,000
FK	23,000
FL	365,000
FV	582,000
LD	66,000
LR	<u>220,000</u>
Total	<u>3,517,500</u>

Public Works

<u>Code</u>	<u>Cost (with fringe)</u>
FA	2,482,000
FC	215,000
FD/PW	916,000
FN	69,000
FR	155,000
FT	<u>51,000</u>
Total	<u>3,888,000</u>

TABLE 5-5 (Cont.)

<u>Line Manager 05</u>	(2,644,572) (1.236) =	3,268,691
------------------------	-----------------------	-----------

Total G&A Labor Costs		18,021,283
-----------------------	--	------------

Total G&A Non-Labor Costs		8,648,800
Total G&A Labor Costs		<u>18,021,283</u>
Total G&A Costs to be Allocated		<u>26,670,083</u>

for NPS¹². For ease of compilation, BOS and MRP costs are included in the non-labor, non-travel costs associated with line manager 04.

b. Other Labor Costs

Other labor costs are those labor costs that are incurred for the benefit of all mission areas and not previously allocated. Recall the labor costs of military and civilian personnel of line managers 00, 02, 04, and 05 are considered in the G&A cost pool.

The costs for military labor were compiled by obtaining a list of officer and enlisted personnel currently assigned to NPS and applying the annual composite rate pay to their billets. I did not have a list of those officer and enlisted personnel actually on board during fiscal year 1993. The assumption is that the ranks/rates of the current military personnel are not significantly different from those present in fiscal year 1993. Other military labor costs are summarized in Table 5-5.

The civilian labor costs associated with line managers 00, 02, 04 and 05 were compiled using the cost data from Exhibits 5-4 and 5-5. The labor cost for line manager 05, from Exhibit 5-4, did not include the 23.6% civilian labor

¹²The BOS and MRP expenses can be identified under line manager code 04, budget codes G4A and H4B, in Table 5-5.

fringe benefit factor and hence had to be added. Labor costs for line managers 00, 02 and 04 were obtained from Exhibit 5-5 and did include the fringe benefit factor.

c. Allocation of G&A Costs

General and Administrative costs are those costs that are incurred for the benefit of all outputs. In this case, G&A costs are those costs that should be allocated to all activities at NPS that benefit from their incurrence and that have not already been allocated.

Allocation of these G&A costs is a two step process. The first step is to allocate G&A costs to the various academic departments and tenant commands using the total number of personnel as a basis of allocation. To do this, take the sum of the total G&A costs to be allocated from Table 5-5 and divide that by the total number of non-student personnel on board at NPS from Table 5-6¹³. This gives a dollar figure to be allocated per non-student personnel assigned. In the case of the Department of Systems Management, one would take the number of non-student personnel assigned to the department and multiply that by the allocated dollar figure per non-student personnel assigned to arrive at

¹³The non-student personnel total was obtained from the NPS comptroller office. His office had recently completed a survey of all activities at NPS and its tenant commands for an upcoming required base closure report. Within that survey was the non-student personnel figures that are presented in Table 5-6.

TABLE 5-6

ALLOCATION OF G&A COSTS

Onboard Personnel - Non Student

	<u>Officer</u>	<u>Enlisted</u>	<u>Civilian</u>	<u>Total</u>
NPS	101	97	1020	1218
Tenants	63	117	372	552
Total				1770

Allocation

Total G&A Costs/Total Personnel = 26,670,083/1770

\$15,068 Allocated Per Non Student Personnel Assigned

G&A Costs Allocated to the Department of Systems Management

(99 Non Student personnel assigned) (15,068) = \$1,491,732

Total
G&A Allocated

Total Departmental G&A Costs Allocated To Instruction Only**Departmental, Instruction Only, Multiplier**

Total Dept Instruction Man Years/Dept (DTY + DRY+ RMY)

32.15/53.06 = .6059

Total Allocation to Instruction

(1,491,732) (.6059) = **\$903,640** G&A Costs Allocated to
Instruction

the total G&A cost to be allocated to the Department of Systems Management. Another alternative would be to divide the number of non-student personnel assigned to the Department of Systems Management by the total number of non-student personnel assigned to NPS and tenant commands. This fraction is multiplied by the total G&A costs for NPS to arrive at the total amount of G&A cost assigned to the Department of Systems Management. Either way is acceptable.

The second step is to allocate the G&A costs assigned to the Department of Systems Management to the cost of instruction within the department. These costs need to be allocated based on the reasonableness of how these costs were incurred. Again, the man-year data can be used to derive a fractional representation of the amount of time that was devoted to teaching (DTY) within the department, divided by the total man-years (DTY+DRY+RMY) consumed within the department. Table 5-6 summarizes the allocation of G&A costs to instruction within the Department of Systems Management.

To arrive at a cost per average student on board, simply sum all direct, indirect and G&A costs that are allocated to instruction within the Department of Systems Management and divide those costs by the total average number of students on board during fiscal year 1993.

The Director of Students and Programs (LM 03) maintains a file of the average number of students on board by curriculum for each fiscal year. This file also distinguishes

between United States and international students. I combined the United States and international students because I have not separately accounted for all Foreign Military Training funds. The NPS is reimbursed for each of the international students that attend the school. These reimbursements are part of a general fund that is further allocated to each academic department based on their student academic workload. These allocations are not distinguishable in the faculty budget plan and are captured within the direct instruction salaries presented in Table 5-1. Thus, international students within the Department of Systems Management in 1993 are included in the denominator to determine the unit cost per graduate.¹⁴

Table 5-7 summarizes the costs for instruction and the cost assigned to the average student on board within the Department of Systems Management for fiscal year 1993.

F. COMPARISON OF THE FULL COST DATA

1. Introduction and Limitations

Recall from Chapter II that one of the points of comparison would be the full cost of the Financial Management program at NPS to the full cost of selected civilian MBA

¹⁴The NPS accounting systems does separately account for direct non-labor and indirect labor that supports Foreign Military Training. These costs were not included in this unit cost model because they are for the benefit of the international students only.

TABLE 5-7

**DEPARTMENT OF SYSTEMS MANAGEMENT
INSTRUCTION COST SUMMARY
1993**

Department of Systems Management

Cost of Instruction Summary:

Direct Costs	4,548,707
Allocated Indirect Labor	656,678
Allocated Indirect Non-Labor	710,344
Allocated G&A	903,840
Total	<u>6,819,569</u>

Total Costs Allocated to Instruction/Total AVG Students Onboard
in Dept of Systems
Management for FY 1993

Average Number of United States Students = 370

Average Number of International Students = 47

417 Total Students

6,819,569/417 Students = \$16,354

Yearly Instruction Cost per Department
of Systems Management Student

programs. To make this comparison it is necessary to stay within the same frame of reference. Simply comparing the full cost of the Financial Management program at NPS to the tuition cost of a civilian MBA program does not suffice. Remember that the Office of Management and Budgets' circular requires that the full cost to society is the comparative that we measure federal programs against. To do this I had to look past the tuition costs and find the total expenditures per student for instruction at each civilian program. It was necessary at this point to search for alternatives to estimate the total spending per student for instruction at these civilian institutions.

John Minter and Associates, of Boulder, Colorado, uses source documentation from the United States Department of Education to compile statistics and cost data that are needed in making the cost estimations. Exhibit 5-6 is the cost data for each of the four civilian schools for the year 1990-1991. These costs represent the total expenditures for salaries, wages, goods and services provided. These costs are aggregated for each of the schools as a whole and can not be broken out by a particular academic program. Since statistics were not kept on the total costs incurred by each particular academic program, it was necessary to formulate a surrogate cost figure that could reasonably represent the costs that were incurred. I understand that I will be comparing the full

cost of instruction per student in the Department of Systems Management to the full cost of instruction at each of the selected civilian institutions as a whole.

2. Deriving the Full Cost at Civilian Institutions

Exhibit 5-6 presents the cost data for each of the selected civilian schools into cost function categories. These cost categories are listed as:

1. Instruction
2. Research
3. Public Service
4. Academic Support
5. Student Services
6. Institutional Support
7. Plant operations

a. Direct Costs of Instruction

Cost category (1), instruction, is broken up into two sub categories, salary and wage costs and non salary and wage costs. The total of this cost category is considered direct costs for instruction.

b. Indirect and General and Administrative Costs

Cost categories (3) through (7) are considered either as indirect or G&A costs for the civilian institutions. In the case of these costs they must be allocated on the basis of the reasonableness of how they were consumed.

c. Allocating the Indirect and General and Administrative Costs

I used the assumption that each of the schools produced only two outputs, instruction or research. In this case all of the indirect and G&A costs have to be allocated in some proportion to the way that they were used to either the cost of instruction or the cost of research. For purpose of allocation, I used the percentage of total cost of instruction and research as the basis for allocation. An example will illustrate this point. From Exhibit 5-6, Harvard University:

$$\begin{array}{rcl}
 \text{Percentage of total costs for instruction} & = & 34.8\% \\
 \text{Percentage of total costs for research} & = & \frac{21.2\%}{56.0\%} \\
 \\
 \text{Allocation multiplier for instruction} & = & \frac{34.8}{56.0} = .6214 \\
 \\
 \text{Allocation multiplier for research} & = & \frac{21.2}{56.0} = .3786
 \end{array}$$

In the Harvard University example, 62.14% of all the indirect and G&A costs would be allocated to the cost of instruction. Table 5-8 is a summary of all the multipliers and the allocation of indirect and G&A costs for each of the selected civilian institutions.

d. Full Cost Per Student for Instruction

To find the full cost per student for instruction, simply sum the direct costs for instruction with the allocated costs of instruction and divide that number by the total number of students attending the university.

TABLE 5-8

**ALLOCATION MULTIPLIERS AND SUMMARY
OF ALLOCATION OF INDIRECT AND G&A
COSTS FOR CIVILIAN INSTITUTIONS**

Harvard University

Percentage of all Function Cost for Instruction = 34.8%
 Percentage of all Function Cost for Research = $\frac{21.2}{56.0}\%$

Allocation Multiplier for Instruction = $\frac{34.8}{56.0} = .6214$

Allocation Multiplier for Research = $\frac{21.2}{56.0} = .3786$

Cost of:	Public Service	22,166,000
	Academic support	119,948,000
	Student Services	33,249,000
	Institutional Support	75,177,000
	Plant Operations	<u>143,838,000</u>
		394,378,000

Allocation of Indirect and G&A Costs to Instruction

$(394,378,000) (.6214) = 245,070,000$

Full Cost of Instruction

Direct Cost of Instruction	312,091,000
Allocated Cost of Instruction	<u>245,070,000</u>
	557,161,000

TABLE 5-8 (Cont)

Northwestern University

Percentage of all Function Cost for Instruction = 53.2%
 Percentage of all Function Cost for Research = $\frac{22.83}{76.03}$

Allocation Multiplier for Instruction = $\frac{53.2}{76.0} = .70$

Allocation Multiplier for Research = $\frac{22.8}{76.0} = .30$

Cost of:	Public Service	647,000
	Academic support	20,817,000
	Student Services	16,186,000
	Institutional Support	29,879,000
	Plant Operations	<u>37,373,000</u>
		104,902,000

Allocation of Indirect and G&A Costs to Instruction

$(104,920,000) (.70) = 73,445,000$

Full Cost of Instruction

Direct Cost of Instruction	234,316,000
Allocated Cost of Instruction	<u>73,445,000</u>
	307,760,000

TABLE 5-8 (Cont)

University of North Carolina at Chapel Hill

Percentage of all Function Cost for Instruction = 42.0%
 Percentage of all Function Cost for Research = $\frac{18.0}{60.0}$

Allocation Multiplier for Instruction = $\frac{42.0}{60.0}$ = .70

Allocation Multiplier for Research = $\frac{18.0}{60.0}$ = .30

Cost of:	Public Service	118,951,000
	Academic support	33,347,000
	Student Services	7,345,000
	Institutional Support	27,123,000
	Plant Operations	<u>42,946,000</u>
		229,971,000

Allocation of Indirect and G&A Costs to Instruction

(229,971,000) (.70) = 160,800,000

Full Cost of Instruction

Direct Cost of Instruction	241,387,000
Allocated Cost of Instruction	<u>160,800,000</u>
	402,187,000

Since universities offer courses to both full and part time students, the Department of Education uses the term, Full Time Equivalents (FTE), to approximate the number of students attending an university.¹⁵ To find the total number of full time equivalent (FTE) students attending a university, take the total direct dollars for instruction and divide that by the dollars per FTE student figure (Exhibit 5-6). In the Harvard University example, it would be:

$$\frac{\text{Total Direct Dollars for Instruction}}{\text{Dollars Per FTE Student}} = \frac{312,091,000}{16,682} = 18,708 \text{ FTE}$$

Table 5-9 shows the calculations of the Full Time Equivalent students and the total cost per student for instruction for each of the selected universities.

e. The Inflation Factor

The cost data used to calculate the full cost of instruction for the selected universities was for the year 1990-1991. The cost comparison is to full cost data at NPS for fiscal year 1993. At this point it is necessary to inflate the 1990-1991 cost figures to 1993 dollars. To do this, I used reference data from the National Center for Educational Statistics[Ref. 13] that keeps cost figures

¹⁵Full Time Equivalent (FTE) students is the total number of all full time students plus one third of the part time students attending a university.

TABLE 5-9

**FULL TIME EQUIVALENT (FTE) STUDENT CALCULATIONS
AND FULL COST PER STUDENT FOR INSTRUCTION
AT CIVILIAN INSTITUTIONS**

Costs from TABLE 5-8

1. Direct Cost for Instruction = Full Time Equivalent Students
Dollars Per FTE Student
(From Exhibit 5-6)
2. Total cost for Instruction (1990-1991) = \$ Per FTE Student
FTE Students

Harvard University

1. $\frac{312,091,000}{16,682} = 18,708$ FTE Students
2. $\frac{557,161,000}{18,708} = 29,782$ Per FTE Student Per Year

Northwestern University

1. $\frac{234,316,000}{15,994} = 14,650$ FTE Students
2. $\frac{307,760,000}{14,650} = 21,008$ Per FTE Student Per Year

Duke University

1. $\frac{177,537,000}{16,330} = 10,872$ FTE Students
2. $\frac{348,880,000}{10,872} = 22,892$ Per FTE Student Per Year

University of North Carolina at Chapel Hill

1. $\frac{341,387,000}{11,534} = 20,928$ FTE Students
2. $\frac{402,190,000}{20,928} = 19,218$ Per FTE Student Per Year

on the educational and general expenditures per Full Time Equivalent (FTE) students for both public and private institutions. Using these cost figures I derived an average increase in expenditures for education over the period 1991-1993. These calculations and application of the inflators to the 1990-1991 full cost data is presented in Table 5-10.

f. The Time Delta

The last consideration when making the comparison between the costs incurred for one program versus another is the time that it takes to complete each program. The average time for a student to complete the Financial Management curriculum at NPS is eighteen months. The full cost for instruction is based on a year. For purposes of comparison, I assume that costs are incurred at a uniform rate throughout the year and there is no inflation. Thus the total full cost for instruction for a Financial Management degree at NPS would be 1.5 times the yearly full cost for instruction. In the case of the civilian institutions, the average amount of time for the MBA degree is 21 months¹⁶. The total full cost for instruction at civilian institutions would be 1.75 times the yearly full cost for instruction.

Another time consideration is officers' wages. Whether an officer attends NPS or a civilian institution, the

¹⁶This is based on an interview with the Manager of Civilian Institution Programs at NPS.

TABLE 5-10

EDUCATIONAL AND GENERAL EXPENDITURE PER
FTE OF PUBLIC 4 YEAR INSTITUTIONS

1993 DOLLARS

<u>YEAR</u>	<u>DOLLARS PER FTE STUDENT</u>	<u>DOLLAR DELTA</u>	<u>% DELTA</u>
1991	12,777	---	---
1992	13,050	273	2.1%
1993	13,834	784	<u>6.0%</u> 8.1%

AVERAGE CHANGE PER YEAR (1991-1993) = $\frac{8.1\%}{2} = 4.05\%$

EDUCATIONAL AND GENERAL EXPENDITURE PER
FTE OF PRIVATE 4 YEAR INSTITUTIONS

1993 DOLLARS

<u>YEAR</u>	<u>DOLLARS PER FTE STUDENT</u>	<u>DOLLAR DELTA</u>	<u>% DELTA</u>
1991	23,195	---	---
1992	23,755	560	2.4%
1993	25,256	1501	<u>6.3%</u> 8.7%

AVERAGE CHANGE PER YEAR (1991-1993) = $\frac{8.7\%}{2} = 4.35\%$

TABLE 5-10 (Cont)

FULL COST FIGURES FROM TABLE 5-9

<u>PUBLIC INSTITUTION</u>	<u>FULL COST</u>	<u>INFLATOR</u>	<u>ADJUSTED FULL COST</u>
UNIVERSITY OF NORTH CAROLINA	19,218	$(1.0405)^2$	20,806
 <u>PRIVATE INSTITUTION</u>			
HARVARD UNIVERSITY	29,782	$(1.0435)^2$	32,429
DUKE UNIVERSITY	22,892	$(1.0435)^2$	24,927
NORTHWESTERN UNIVERSITY	21,008	$(1.0435)^2$	22,875

Navy still incurs the cost of the officers' salary. However, civilian MBA programs take on average three more months to complete. In addition, there is the required two week Practical Comptroller Course that must also be completed to be awarded the sub-specialty code. This additional time (14 weeks) represents a percentage of an officers' annual composite pay rate. This added wage expense should be factored into the total full cost for instruction at civilian institutions. For the purpose of this study, I will assume that the officer annual composite pay rate is that of a Navy Lieutenant. Table 5-11 is the comparison of the total full cost of instruction at NPS to the selected civilian institutions plus the added wage expense.

One issue that will be focused on in Chapter VI is comparing the full cost of instruction at NPS to the full cost of instruction at selected civilian institutions. Although the OMB circular specifies that the full cost for instruction at civilian institutions must be considered, a government organization would pay very close attention to the budgetary costs incurred. This factor and a number of unique qualitative considerations that are important when making a comparison between NPS and civilian institutions and will be addressed in the next chapter.

TABLE 5-11

**COMPARISON OF THE FULL COST OF INSTRUCTION
AT NPS TO THE FULL COST OF INSTRUCTION
PLUS THE ADDITIONAL WAGE EXPENSE AT
SELECTED CIVILIAN INSTITUTIONS
1993**

<u>INSTITUTION</u>	<u>YEARLY FULL INSTR COST</u>	<u>MULTIPLIER</u>	<u>ADDITIONAL WAGE EXPENSE</u>	<u>TOTAL¹⁷</u>
NPS	16,354	1.5	---	24,531
NORTH CAROLINA	20,806	1.75	19,481	55,892
HARVARD	32,429	1.75	19,481	76,232
DUKE	24,927	1.75	19,481	63,103
NORTHWESTERN	22,875	1.75	19,481	59,512

Multiplier

Full costs are calculated on a yearly basis. Hence the multiplier for the 18 month Financial Management program is 1.5 times the yearly cost. Similarly, a 21 month MBA program would be 1.75 times the yearly cost.

Additional wage expense

Assuming that the officer is a Navy Lieutenant.
Annual composite pay rate for a Navy Lieutenant = 72,359

Additional time to Acquire XX31P =	12 weeks for MBA degree
sub-specialty code	<u>2 weeks for PC course</u>
	14 additional weeks

14 additional weeks = .27
52 weeks per year

$(.27)(72,359) = 19,481$ Additional wage expense

¹⁷Total cost is the total instructional cost plus the additional wage expense.

VI. COMPARISON OF COST AND QUALITATIVE ASPECTS OF NPS TO CIVILIAN INSTITUTIONS

A. INTRODUCTION

This chapter will compare the full costs of instruction at Naval Postgraduate School to the tuition costs at the selected civilian MBA programs. In addition, this would be a good point to revisit some of the limitations on the data that were used to formulate the comparison between NPS and the civilian institutions. Lastly, I will discuss some of the qualitative aspects of the Naval Postgraduate School that contributes to its uniqueness in preparing Naval Officers for future assignments.

B. FULL COST VERSUS TUITION COST

Recall from the end of Chapter V, I briefly discussed the issue of full versus budgetary costs. While the OMB circular A-94 requires that analysis be conducted using full costs, there would be a great deal of interest within the United States Navy in the budgetary costs of graduate education. In fact, one argument frequently heard is that these are the only relevant costs to consider. According to this argument, a civilian institution's full cost for instruction would be immaterial for comparison because they do not pass these full

costs on to students. Hence, it is appropriate to also compare the tuition that the Navy would be charged by civilian institutions to the full cost of instruction at NPS.

To present the budgetary costs, Table 6-1 is the comparison of the full cost of instruction at NPS, from Chapter V, to the 1992-1993 tuition costs for each of the civilian MBA programs.¹⁸ When making this comparison, I will again be calculating the costs for earning the degree and sub-specialty code. For the purpose of this illustration, I will assume that costs are incurred uniformly throughout the year and held constant for the period of the study.¹⁹ For the full cost of instruction at NPS, it is 1.5 times the yearly full cost for instruction for the Financial Management program because the program takes 18 months to complete. To determine the cost for the selected MBA degree with the requisites for the XX31P sub-specialty code, it is 2.0 times the 1992-1993 tuition charge because each program lasts two academic years, plus the marginal additional wage expense of the officer's salary for the added time to earn the MBA degree and sub-specialty code.

¹⁸Tuition costs were obtained from the Manager of Civilian Institution Programs at NPS.

¹⁹The assumption that costs remain constant over the period is a difficult one to justify. For the four schools chosen, tuition rates have risen between 16% - 85% between the academic years 1992-1993 and 1994-1995. I assume that costs remained constant because I have not calculated full cost of instruction at NPS for 1994, only for 1993.

COMPARISON OF THE FULL COST OF INSTRUCTION
AT NPS TO THE TUITION AND ADDITIONAL
WAGE EXPENSE AT SELECTED CIVILIAN MBA PROGRAMS
1993

	YEARLY FULL INSTRUCTION COST OR TUITION	MULTIPLIER	ADDITIONAL WAGE EXPENSE	TOTAL ²⁰
NPS	16,354	1.5	---	24,531
HARVARD	17,050	2.0	19,481	53,581
NORTHWESTERN	15,080	2.0	19,481	49,641
DUKE	10,720	2.0	19,481	40,921
NORTH CAROLINA	6,580	2.0	19,481	32,641

Multiplier

Full costs are calculated on a yearly basis. Hence the multiplier for the 18 month Financial Management program is 1.5 times the yearly cost. Similarly, a 2 academic year MBA program would be 2.0 times the yearly tuition cost.

Additional wage expense

Assuming that the officer is a Navy Lieutenant.
Annual composite pay rate for a Navy Lieutenant = 72,359

Additional time to Acquire XX31P = 12 weeks for MBA degree
sub-specialty code 2 weeks for PC course
14 additional weeks

$$\frac{14 \text{ additional weeks}}{52 \text{ weeks per year}} = .27$$

(.27)(72,359) = 19,481 Additional wage expense

²⁰Total is the total instructional cost for the Financial Management program at NPS or tuition plus the marginal additional wage expense of the civilian MBA programs.

C. A REVISIT OF DATA LIMITATIONS

At this point it is important to revisit some of the limitations on the data collected for the civilian institutions. Recall from Chapter V, when determining the full cost for instruction at a particular institution, statistics were gathered for four year public or private institutions. There were no statistics for post-baccalaureate education. Hence, the assumption is that the MBA graduate programs incurred direct costs and are allocated indirect and G&A costs at the same rate as undergraduate programs. This is an assumption that civilian institutions have an incentive to allocate their costs at the same rate for undergraduate degrees as for their graduate programs. Whether civilian institutions have an incentive to subsidize the cost of undergraduate education to a greater extent than graduate education is beyond the scope of this study but no less an interesting question that could be explored. In conversations with the admissions departments at each of these schools it was apparent to me that they had little idea of how the rate of tuition was determined. However, looking at the differences in the cost of undergraduate to graduate tuition rates, it appears that graduate students bear a greater portion of the full cost of instruction.

In Chapter V, I made the assumption that each civilian program had only two cost objects (instruction and research) to allocate their indirect and G&A costs to. I also made the assumption that all programs incurred costs at the same rate. Another thesis, done in conjunction with this one, shows that different programs at NPS incur costs at different rates. This assumption for civilian institutions, in essence, averages the cost for all programs offered. This assumption also ignores that there could be other mission areas that the civilian institutions support that should be allocated a portion of the costs or should be charged for reimbursable purposes. These could take the form of institutional support services or community outreach programs.

Even with these limitations, I think that it is clear that the overriding factor that drives the difference between the costs at NPS and the civilian institutions is the additional wage expense for the extra time that is needed to complete the requisites for the MBA and the XX31P sub-specialty code. Even when employing tuition rates, NPS is still the low cost alternative. The additional wage expense represents over 70% of the entire cost of instruction for the Financial Management program. Thus, until civilian institutions can (or are even willing to) deliver an approved XX31P sub-specialty code program within an 18 month window, it is doubtful that they will be the low cost alternative for the Navy in the near future.

D. UNIQUENESS ASPECTS

1. Admissions process

For illustrative purposes, I think that an example of the how the admissions process at NPS differs from that of its civilian counterpart would be enlightening. Imagine the scenario of two officers, both deployed on the same ship and both wanting to obtain the XX31P sub-specialty code. One wants to go through the Financial Management program at NPS, and one wants to go through a civilian MBA program. The officer wanting to attend NPS simply has to consult his Officer Data Card (ODC) to determine his eligibility for graduate education. If the officer is selected by the Graduate Education Selection Board and his Academic Profile Code (APC)²¹ meets the academic prerequisites for admission, no formal admission requirements, e.g., GMAT, are necessary. If the requested program is available, then the requesting officer may be detailed to that billet.

Contrast this to the officer wanting civilian graduate education. The Fully Funded Graduate Program requires that the prospective student be accepted into a graduate program prior to requesting orders. For flexibility and budgeting

²¹The APC is a three digit code that indicates the academic background of an officer.

purposes, the officer should apply to at least three universities,

...one of which has relatively inexpensive tuition rates.[Ref. 14]

Recall from Chapter II, the general admission requirements for civilian MBA programs:

1. GMAT scores. This requires that the prospective student to be available and prepared to take the test. Using the data from Table 3-1, the average NPS naval officer has been out of the academic world for about 10 years at the time of entry and is more than likely out of touch with his study skills.

2. Overall undergraduate GPA. As shown with the admission model, over a third of the current Financial Management class would find it difficult to be accepted into an approved MBA program.

3. Student application and essay. The only likely problem with this requirement would be with the turnaround time from the request of the application to the acceptance of the prospective student. Officers generally have a six month window for their next set of orders. This requirement would require that the student be timely in submitting his application.

4. Work history. A naval officer's work history would satisfy this requirement for all the schools that I interviewed.

5. Assessment of the student's ability and how they would fit in at the school. This is a subjective assessment that is difficult to gauge.

6. Subjective assessment of managerial ability. Again, this is a subjective quality that the school must assess.

7. Formal interview with school officials. Not only is the time to fulfill this requirement an issue, but so is the question of who will bear the expense for travel. If the Navy wants officers to attend these schools, then the Navy would have to bear the expense of travel and per diem.

I think that it is obvious that the officer wanting to attend NPS has an easier time and a greater success rate. He merely writes or calls his detailer and requests the assignment. He will know in a short time if his request has been granted.

The officer wanting to attend a civilian institution has many obstacles to contend with if he hopes to succeed. I would venture to say that it is an overwhelming task for an officer assigned to a deployed ship to be accepted into an approved program. Thus, that would leave graduate education available only to those officers on shore duty, with an inordinate amount of inport time, or not assigned to operational commands. Presumably, this should never become the case.

2. Qualitative Aspects of NPS

a. *The Thesis*

From a research perspective, student theses provide a wealth of information on relevant topics for the Department of Defense. Analysis of the theses written by students within the Department of Systems Management for the year 1993 shows that 94% submitted were of DOD relevant topics.²² None of the four civilian MBA programs requires a thesis, and this particular ESR is waived for military students attending these institutions when considering the award of the XX31P sub-specialty code. Here are some examples of NPS thesis topics:

1. AN ANALYSIS OF THE BASE REALIGNMENT ACTIONS (COBRA) MODEL
2. AN ANALYSIS OF NAVY BACHELOR HOUSING FUNDING
3. INNOVATIVE CHANGE IN THE ARMY
4. BUDGETING AND INVESTING IN THE MILITARY RETIREMENT FUND
5. ANALYSIS OF NAVY AIRCRAFT ENGINE AND ENGINE COMPONENT WARRANTIES.
6. STRATEGIES TO MINIMIZE FINANCIAL LOSS DURING PERMANENT CHANGE OF STATION MOVES.
7. A COST ANALYSIS OF A NAVY DRUG EDUCATION PROGRAM.
8. AN ANALYSIS OF THE MARINE CORPS RESERVE APPROPRIATIONS.

²²Of the 174 theses submitted in 1993, 163 were of DOD relevant topics.

9. ESTIMATING OPERATING AND SUPPORT COST MODELS FOR U.S.
NAVY SHIPS.

10. COMMERCIAL STYLE MARKET RESEARCH FOR NAVY ACTIVITIES.

The thesis process has a future impact on an officer's career. As an officer moves into future assignments, he will most likely be called upon to analyze defense issues and present briefings to high level military or civilian officials. The thesis process exposes and enables an officer to obtain both analytical and presentational skills.

b. Superintendent's Guest Lecture Series

The Superintendent's Guest Lecture Series provides officers with relevant and timely exposure to military or career enhancing information on a continuing basis. These lectures help prevent an officer from becoming isolated from his particular warfare community and widens his perspective of other aspects of military service departments.

c. Military Atmosphere

Attending NPS keeps students from becoming disconnected from the military atmosphere. Over 90% of the students attending NPS are from the United States Armed Forces. Common concerns and discussions in the joint and international arena are presented on a daily basis. Each of the courses taken have a distinct military flavor and application. A majority of professors teaching these courses have DOD experience and incorporate military aspects into

classwork, homework and research papers. In addition, the required Joint and Maritime Strategy course, offers an officer attending NPS a historic and current view of military strategy not available to a student attending civilian institutions

d. Other Aspects

William Bowman, a Professor at the United States Naval Academy, has identified other aspects of NPS that warrant attention.[Ref. 15]

1. Housing costs probably would be lower at NPS due to the availability of Navy housing. There is a commonly held opinion that Navy housing is less expensive to provide than subsidized housing payments. This is a point that requires more study. However in most cases, civilian institutions are not located near military facilities, thus subsidized housing allowances would have to be provided to the attending officer.

2. The agglomeration factor. NPS offers one central location and can take advantage of shared common costs. If graduate studies are to be moved to civilian institutions then small administrative units would have to be formed, or the Navy would have to use the nearest NROTC unit to support the attending officers.

3. One aspect that is applicable to graduate education, whether it be conducted at NPS or civilian institutions, is that officers attending graduate schools incur longer periods

of obligated service. Officers completing the Financial Management or a civilian MBA program incur an additional three years of service commitment. Take an example of a six year lieutenant entering NPS. After the eighteen month course work and the three year obligated service, the lieutenant is at the ten and a half year point in his career. He is at an important decision point in his life. He will be screening for the lieutenant commander promotion and is over half way toward his military retirement. There is a good chance that this officer will remain in the naval service. If this is the case, then the Navy can expect lower accession rates which reduce turnover costs for officers attending NPS.

E. A SUMMARY COMPARISON OF COSTS

At this point I would like to present a summary of the comparisons between the full cost for instruction shown in Chapter V and the tuition cost that was presented earlier in this chapter. Table 6-2 brings both cost summaries together for ease of comparison. As stated earlier, until civilian institutions can deliver an approved XX31P sub-specialty code program within an 18 month window, it is doubtful that they will ever be the low cost alternative for the Navy.

Chapter VII will wrap up this study with a summary of the data provided, conclusions reached, and recommendations based on this research.

TABLE 6-2

**COMPARISON OF THE FULL COST OF INSTRUCTION
AT NPS TO THE FULL COST OF INSTRUCTION
PLUS THE ADDITIONAL WAGE EXPENSE AT
SELECTED CIVILIAN INSTITUTIONS
1993**

<u>INSTITUTION</u>	<u>YEARLY FULL INSTR COST</u>	<u>MULTIPLIER</u>	<u>ADDITIONAL WAGE EXPENSE</u>	<u>TOTAL²³</u>
NPS	16,354	1.5	---	24,531
NORTH CAROLINA	20,806	1.75	19,481	55,892
HARVARD	32,429	1.75	19,481	76,232
DUKE	24,927	1.75	19,481	63,103
NORTHWESTERN	22,875	1.75	19,481	59,512

**COMPARISON OF THE FULL COST OF INSTRUCTION
AT NPS TO THE TUITION AND ADDITIONAL
WAGE EXPENSE AT SELECTED CIVILIAN MBA PROGRAMS
1993**

	<u>YEARLY FULL INSTRUCTION COST OR TUITION</u>	<u>MULTIPLIER</u>	<u>ADDITIONAL WAGE EXPENSE</u>	<u>TOTAL²⁴</u>
NPS	16,354	1.5	---	24,531
HARVARD	17,050	2.0	19,481	53,581
NORTHWESTERN	15,080	2.0	19,481	49,641
DUKE	10,720	2.0	19,481	40,921
NORTH CAROLINA	6,580	2.0	19,481	32,641

²³Total cost is the total instructional cost plus the marginal additional wage expense.

²⁴Total is the total instructional cost for the Financial Management program at NPS or tuition plus the marginal additional wage expense of the civilian MBA programs.

TABLE 6-2 (Cont)

Multiplier

Full costs are calculated on a yearly basis. Hence the multiplier for the 18 month Financial Management program is 1.5 times the yearly cost. Similarly, a 21 month MBA program would be 1.75 times the yearly cost. Tuition costs are based on a yearly rate for 2 academic years. Thus the multiplier is 2.0 times the yearly tuition rate.

Additional wage expense

Assuming that the officer is a Navy Lieutenant.

Annual composite pay rate for a Navy Lieutenant = 72,359

Additional time to Acquire XX31P = 12 weeks for MBA degree	
sub-specialty code	<u>2 weeks for PC course</u>
	14 additional weeks

14 additional weeks = .27

52 weeks per year

(.27)(72,359) = 19,481 Additional wage expense

VII. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY

To summarize this thesis, I want to revisit the primary and subsidiary research questions to ensure that the objective of this study has been met.

1. Primary Research Question

- a. *Is there a significant benefit in the Naval Postgraduate School maintaining a Financial Management program as compared to sending its students to civilian institutions?*

To answer this question, I provided quantitative and qualitative analysis in comparing the Financial Management program at NPS to four leading MBA programs. Whether comparing the full cost of instruction at NPS to either the full cost of instruction or tuition cost for each of the civilian MBA programs, an important factor that made NPS the low cost alternative was the additional wage expense incurred to complete the requisites for the civilian MBA degree and the XX31P sub-specialty code. In addition, NPS does have the lowest yearly full instruction cost of any of the schools considered.

There are many qualitative aspects of NPS that make the school an attractive option for the Navy to continue its operation. The military atmosphere, joint and international military exposure, and continuing the connection to the officer's warfare community helps to build a unique perspective that can not be duplicated at a civilian institution.

2. Subsidiary Research Questions

- a. To capture all of the costs associated with the Financial Management program, I must define the unit of output.***

Measurement of unit cost requires that final cost objects be identified and the cost of resources used to produce these end products accumulated into accounts that record their consumption. The DOD guidance for unit costing states that training commands' measurement of output for unit cost purposes will be graduates. The Hunter and Hicks unit cost model pointed out that curriculums at NPS are of varying lengths and that simply counting graduates would either overstate or understate the amount of resources used to produce a graduate in a given year. Borrowing their surrogate to represent output for NPS, I substituted the average student on board for number of graduates. This more accurately states the output for an academic department with curriculums of varying lengths.

b. Are Financial Management curriculum courses sufficiently unique in nature or sequencing that they can not be duplicated at other civilian institutions?

It was my original intention to try to analytically compare the Financial Management program to its MBA counterpart but found that I was proceeding deeper into the realm of subjectivity. Discussions with my thesis advisors led me to the conclusion that it was best to leave the academic comparison of each program to the judgement of the individual program Academic Associate. However, I have pointed out that there is strong military influence that is intentionally woven into each course that is offered at NPS.

In the case of sequencing, the Financial Management program at NPS is more flexible than civilian MBA programs. NPS offers two start dates each year (January and June) for the Financial Management program as compared to one (September) for the civilian institutions.

c. The Office of Management and Budget Circular A-94 stipulates that when measuring the costs of a federal program or policy, the full cost to society should be analyzed and not just the cost to the Federal Government.

This question raised a lot of discussion in determining the relevance of this circular's policy. The

debate centered on what should be the focus when comparing costs. Should it be between full costs for instruction or budgetary costs? I believe that the comparison should be between the full costs for instruction. This perspective keeps the comparison within the same frame of reference: total costs to society. To compare the full cost of instruction at NPS to tuition at civilian institutions ignores the effects that institutional, state and federal subsidies have on lowering the tuition rate of a school.

d. What is the cost of transitioning students with limiting undergraduate backgrounds or no recent academic experience?

I had originally thought that students with below average scholastic achievements could take classes at a particular civilian institution to prove that they could handle the program requirements. These added courses would act as the transitioning element to gain entrance and to which I could attach a cost. What I found with civilian MBA programs is that one is either accepted into the program or not. The civilian MBA programs are structured to transition the student through the core courses. These core courses help build the foundation needed for future courses. The Financial Management program at NPS is built along these same lines. The NPS uses required courses to transition the student early in the program. These acquired skills are necessary for

application in more advanced courses within the curriculum. The question now becomes, what is the cost to the Navy to contract with a civilian institution to provide the course work for the XX31P sub-specialty code? This was beyond the scope of this thesis but would be a good topic for further research.

B. CONCLUSION

I attempted to compare the full cost for instruction of the Financial Management program at NPS to the full cost of instruction of MBA programs at selected civilian institutions plus the marginal additional wage expense incurred to satisfy the MBA degree and XX31P sub-specialty code requirements. To achieve this I used fiscal year 1993 cost data to arrive at a unit cost for instruction. For NPS cost data, I was able to use the Hunter and Hicks unit cost model. I used their model to employ NPS accounting data to arrive at a unit cost within the Department of Systems Management. For developing a unit cost for each of the civilian MBA programs, I had to manipulate statistics that were provided from the Department of Education. The reasonableness of my application and limitations of this data were discussed in Chapter VI. However I believe that these unit cost figures for the civilian institutions are representative of the costs that they incur to provide instruction.

Comparing costs between NPS and the selected civilian institutions to obtain a graduate degree and the XX31P sub-specialty code, NPS was, in every case, the low cost alternative. This is a significant finding. I had originally thought that NPS would be more expensive but one could justify its existence based on the many qualitative aspects that make it unique. However, the Financial Management program at NPS does what it advertises to do. That is, it provides graduate education and sub-specialty code skills at a lower cost to the government than comparable civilian institutions.

C. RECOMMENDATIONS

I recommend that the Naval Postgraduate School continue to offer the Financial Management program. I chose to compare the Financial Management program to civilian MBA programs because they were the closest in character. However in many respects the Financial Management program at NPS is superior to the civilian MBA programs for the purposes of the military. The Financial Management program is more analytically based and is focused on military applications. In addition, the NPS requires a thesis that typically addresses an issue of concern to the DOD. One must remember that the Financial Management program is charged with producing officers with the skills to account for the resources that are used to run a military

operation. Civilian MBA programs have to be more broadly based so that their graduates can be competitive in the more diverse civilian sector.

D. TOPICS FOR FURTHER RESEARCH

I suggest three additional topics for further research. These questions were encountered during the process of researching this thesis.

First, this study is a snapshot of the costs of the Financial Management program and selected MBA programs for fiscal year 1993. To ensure that NPS continues to be the low cost alternative, this analysis should be done on a periodic basis.

Second, if the Navy were to close the Financial Management program at NPS but still require XX31P sub-specialty coded officers, what would the Navy do with the students that would not be accepted into an approved MBA program? This study could focus on the cost to the Navy to contract with a civilian institution to provide the additional course work required for the XX31P sub-specialty code.

Third, my thesis focused on the costs for instruction within the Department of Systems Management. The NPS needs to do similar evaluations for every program that it offers. Due to the purely military applications of some programs, I understand that there may not be comparable civilian programs.

However, an analysis of each program would offer a manager the visibility of the costs that drive his program. This would highlight where cost efficiencies could be attained.

APPENDIX A

FY1993 LABOR COST DATA AND CIVILIAN INSTITUTIONS

FULL COST SUMMARIES

This appendix is the compilation of Exhibits 5-1 through 5-6 referred to in Chapter V.

EXHIBIT 5-3

FY-93 FACULTY MAN-YEAR SUMMARY

FACULTY SUMMARY	QTR 1 10/1 to 12/31				QTR 2 1/1 to 3/31				QTR 3 4/1 to 6/30				QTR 4 7/1 to 9/30				TOTAL Man-Years					
	DTR		RMI		DTR		RMI		DTR		RMI		DTR		RMI		DTR		RMI		TOTAL	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
DEPARTMENT	2.00	0.00	0.00	1.72	0.00	0.00	0.00	0.00	2.09	0.00	0.00	0.00	1.89	0.13	0.01	0.01	7.69	0.13	0.01	0.01	7.63	
ADMIN	2.67	1.17	1.42	3.00	0.69	1.24	2.51	0.36	2.51	0.36	1.89	0.36	2.36	0.43	2.27	10.55	2.66	6.78	19.99			
AA	5.73	1.59	2.46	7.99	1.66	3.25	7.19	0.74	2.80	0.74	5.36	0.41	6.23	0.41	5.45	32.15	4.40	16.52	53.06			
AS	2.46	0.72	1.13	3.45	0.81	0.76	2.19	0.48	1.83	0.48	1.83	0.96	6.51	1.97	12.65	2.51	5.71	20.85				
CS	5.17	0.73	3.26	5.21	1.63	2.27	4.32	1.16	3.51	4.91	0.66	3.35	1.91	0.60	0.85	19.61	4.20	12.39	36.20			
EC	5.02	0.67	0.62	4.81	0.98	0.25	3.90	0.94	0.90	5.11	0.00	0.35	1.85	0.35	18.85	2.59	3.61	24.05				
MA	3.77	1.36	1.02	3.09	0.87	1.69	3.36	0.82	1.56	2.90	0.15	2.80	13.12	3.20	7.09	23.41	16.48	25.43				
ME	1.60	0.95	1.69	1.58	0.61	1.75	1.26	0.39	2.31	1.56	0.37	2.40	6.00	2.31	5.17	16.48	25.43					
MR	4.00	1.03	1.67	5.03	0.49	0.75	4.56	0.42	1.23	4.39	0.88	1.35	18.00	2.63	4.62	25.43						
NS	1.92	1.25	1.32	2.20	0.54	1.64	1.84	0.44	2.11	1.32	0.80	2.52	7.26	3.13	7.56	17.99						
OR	4.49	0.74	2.70	2.15	0.62	1.70	4.31	0.44	2.26	3.94	0.37	3.32	18.29	2.07	9.96	30.34						
OC	2.59	1.23	2.89	3.81	0.68	3.29	3.72	0.48	3.66	3.77	0.35	2.84	14.89	2.74	12.68	30.31						
PH	0.89	0.20	0.25	1.15	0.05	0.09	0.63	0.22	0.34	0.69	0.04	0.80	3.56	0.51	1.47	5.55						
GRP	0.51	0.00	0.00	0.47	0.00	0.05	0.41	0.00	0.17	0.46	0.00	0.14	1.84	0.00	0.37	2.21						
AV SAF																						
TOTALS	47.82	11.75	20.41	45.63	9.52	15.40	43.52	6.92	27.14	44.51	5.06	30.01	184.48	33.26	95.97	313.71						
DIRECT TOT	59.57			56.15			50.42			49.57			217.75									
CUM TOTAL	79.96			76.56			79.56			79.56			313.71									
CUM COMB T	79.96			156.51			234.13			313.71												

BALANCE

DEPARTMENT	CENTRALS		TOTAL		BALANCE		TOTALS	
	DT	DR	RM	TOTAL	DT	DR	RM	TOTALS
01 ADMIN	6.00	0.31	0.25	6.56	0.31	0.16	0.24	0.72
AA AERO	11.66	2.87	5.84	20.47	1.13	0.21	-0.84	0.48
AS ADM SCI	30.96	3.91	16.64	51.51	-1.17	-0.49	0.12	-1.53
CS COMP SCI	12.54	2.20	6.76	21.56	-0.11	-0.31	1.05	0.62
EC ECE	23.76	4.11	9.41	37.28	-4.15	-0.09	-2.95	1.08
MA MATH	17.74	2.63	2.39	22.76	-1.11	0.04	-0.22	-1.29
ME MECH ENG	12.41	3.43	8.96	24.80	-0.71	0.23	1.89	1.51
MR METEOR	5.85	2.26	8.37	16.48	-0.15	-0.05	0.20	0.06
NS NSA	17.04	2.84	3.77	23.65	-0.96	0.03	-0.85	-1.76
OC OCEAN	7.26	3.05	7.44	17.75	-0.02	-0.06	-0.14	-0.24
OR OPS RES	18.58	2.30	10.34	31.22	0.29	0.23	-0.36	0.88
PH PHYSICS	14.44	2.54	7.68	24.66	-0.45	-0.20	-5.00	-5.65
GRP	3.74	0.45	1.55	5.77	0.18	-0.06	0.11	0.23
04 AV SAF	2.00		0.25	2.25	0.16	0.00	-0.12	0.04
TOTALS	186.00	23.00	89.80	306.80	1.52	-0.26	-6.17	-5.14
DIRECT TOT	219.00				1.27			

EXHIBIT 5-4

FY-93 MISSION STAFF BUDGET PLAN

FY-93 MISSION STAFF BUDGET PLAN EXECUTION													
C	OTR		OTR 2		OTR 3		OTR 4		OTR 5		TOTALS		TOTAL
	OTL	RAL	OTL	RAL	OTL	RAL	OTL	RAL	OTL	RAL	OTL	RAL	
61	4776	0	4776	0	3080	0	3011	0	15426	0	15426	0	15426
62	23031	0	23031	0	24151	0	24111	0	97320	0	97320	0	97320
63	43465	0	43465	0	43151	0	43151	0	274855	0	274855	0	274855
64	13774	35922	84606	14206	84606	14206	84606	14206	37466	130615	37466	130615	37466
65	3297	0	3297	0	6113	0	5572	0	23697	0	23697	0	23697
TOTALS	104411	35734	104411	35734	20138	14206	20138	14206	107726	43061	107726	43061	107726
DIR TOT	23797	0	23797	0	20138	0	20138	0	80726	0	80726	0	80726
COMB TOT	23797	0	23797	0	20138	0	20138	0	80726	0	80726	0	80726
CUM DIR TOT	23797	0	23797	0	44148	0	44148	0	67010	0	67010	0	67010
L.C. CUM DIR TO	899	0	899	0	44148	0	44148	0	76003	0	76003	0	76003
21 CUM CENTR	217860	0	217860	0	60680	0	60680	0	80726	0	80726	0	80726
DELTA DIR									19482		19482		19482
CUM REIMB	34016	0	34016	0					106644		106644		106644
21 CUM CENTR									174664		174664		174664
DELTA REIMB									-118196		-118196		-118196
CUM TOT	231985	0	231985	0	70626	0	70626	0	104626	0	104626	0	104626
21 CENTR. TOT									104626		104626		104626
DELTA TOT									18712		18712		18712
AVG COT TOT	3066	0	3066	0	3182	0	3182	0	31726	0	31726	0	31726
AVG COT TOT	3197	0	3197	0	3182	0	3182	0	31726	0	31726	0	31726

EXHIBIT 5-5 (Cont.)

FY-93 LABOR CONTROLS

FY 93 LABOR CONTROLS (FTE)			PUBLIC WORKS			ES 7/31/93			CONTROL			AVG		
NO	SAC	FUNDS	FUMPER RT/4	64 DAYS RT/1	65 DAYS RT/2	66 DAYS RT/3	67 DAYS RT/4	TOTAL	NOSES/AMOUNT	RT/5	CONTROL	PRIME	EST	
64	FA	06A.R	65	2821843	58123	518251	518789	2821843	44081	2015463	483317	2412888	.1994	
64	FC	06A.R	5	178983	41858	42296	47951	178983	3578	17272	41437	215888	.2454	
64	FB/PM	06A.R	28	727732	188296	181316	181415	185782	727732	14281	747823	182968	916488	.2386
64	FB	06A.R	2	35442	13441	13113	13123	14148	35442	884	36382	12718	63688	.2794
64	FB	06A.R	4	121294	28587	28737	31237	31718	121294	2548	128754	28664	153888	.2258
64	FT	06A.R	1	43887	18288	18641	18897	18772	43887	815	43817	7282	31888	.1717
TOTAL			97	3159856	777772	781714	792978	886162	3159856	65863	3226121	643879	2888888	.2181312

EXHIBIT 5-6

1991 COSTS - NAVAL POSTGRADUATE SCHOOL SELECT SCHOOLS

EXHIBIT 5-6

Illinois

COST FUNCTION CATEGORIES	Instruction	Public Service	Student Services	Plant Operations	Total Functions
FTE/Full-time plus 1/3 of Part-time Headcount	Research	Academic Support	Institutional Support		

Copyright (C) 1993 John Minter Associates, Inc. Boulder Colorado, All Rights Reserved (Source: U.S. Department of Education)

NORTHWESTERN UNIVERSITY, EVANSTON

SALARY AND WAGE COSTS									
Total Dollars.....	160,570,000	65,517,000	181,000	6,300,000	5,947,000	20,384,000	10,766,000	249,865,008	
Dollars per FTE Student.....	10,960	3,107	12	444	436	1,391	735	17,056	
% of Function Cost.....	68.5	45.3	28.0	31.2	36.7	68.2	28.8		
% of Total Salary/Wage Cost..	64.3	18.2	0.1	2.6	2.4	8.2	4.3		
% of All Functions Cost.....	36.5	10.4	0.0	1.5	1.4	4.6	2.4	56.8	
NON SALARY AND WAGE COSTS									
Total Dollars.....	73,746,000	54,921,000	466,000	14,317,000	10,239,000	9,495,000	26,607,000	189,791,000	
Dollars per FTE Student.....	5,034	3,749	32	977	699	648	1,816	12,955	
% of Function Cost.....	31.0	55.0	72.0	69.0	63.0	32.0	71.0		
% of Total NonSalary/Wage Cos	38.9	28.9	0.2	7.5	5.4	5.0	14.0		
% of All Functions Cost.....	16.8	12.5	0.1	3.3	2.3	2.2	6.1	43.2	
TOTAL COSTS									
Total Dollars.....	234,316,000	100,438,000	647,000	20,617,000	16,186,000	29,879,000	37,373,000	439,655,968	
Dollars per FTE Student.....	15,994	6,856	44	1,421	1,105	2,040	2,551	30,011	
% of All Functions Cost.....	53.3	22.9	0.1	4.7	3.7	6.8	8.5	100.0	

HARVARD UNIVERSITY, CAMBRIDGE

SALARY AND WAGE COSTS									
Total Dollars.....	236,952,000	52,408,000	9,227,000	44,979,000	13,841,000	31,104,000	20,161,000	408,672,000	
Dollars per FTE Student.....	12,666	2,801	493	2,404	740	1,663	1,078	21,845	
% of Function Cost.....	75.9	27.6	41.6	37.5	41.6	61.4	14.0		
% of Total Salary/Wage Cost..	58.0	12.8	2.3	11.0	3.4	7.6	4.9		
% of All Functions Cost.....	26.4	5.8	1.0	5.0	1.5	3.5	2.2	45.6	
NON SALARY AND WAGE COSTS									
Total Dollars.....	75,139,008	137,471,008	12,939,000	74,969,000	19,408,000	44,073,000	123,677,000	487,676,016	
Dollars per FTE Student.....	4,016	7,348	692	4,007	1,037	2,356	6,611	26,068	
% of Function Cost.....	24.0	72.0	58.0	63.0	58.0	39.0	86.0		
% of Total NonSalary/Wage Cos	15.4	28.2	2.7	15.4	4.0	9.0	25.4		
% of All Functions Cost.....	8.4	15.3	1.4	8.4	2.2	4.9	13.8	54.4	
TOTAL COSTS									
Total Dollars.....	312,091,008	189,879,000	22,166,000	119,948,000	33,249,000	75,177,000	143,838,000	896,348,032	
Dollars per FTE Student.....	16,682	10,150	1,185	6,412	1,777	4,018	7,689	47,913	
% of All Functions Cost.....	34.8	21.2	2.5	13.4	3.7	8.4	16.0	100.0	

DUKE UNIVERSITY, DURHAM

SALARY AND WAGE COSTS									
Total Dollars.....	105,732,000	57,261,000	0	19,172,000	6,165,000	36,991,000	11,828,000	237,148,992	
Dollars per FTE Student.....	9,725	5,267	0	1,763	567	3,402	1,088	21,813	
% of Function Cost.....	59.6	49.4	0.0	52.2	55.5	100.0	35.7		
% of Total Salary/Wage Cost..	44.6	24.1	0.0	8.1	2.6	15.6	5.0		
% of All Functions Cost.....	23.7	13.9	0.0	4.7	1.5	9.0	2.9	57.6	
NON SALARY AND WAGE COSTS									
Total Dollars.....	71,804,992	58,623,000	0	17,591,000	4,952,000	0	21,327,000	174,297,992	
Dollars per FTE Student.....	6,605	5,392	0	1,618	455	0	1,962	16,032	
% of Function Cost.....	40.0	51.0	0.0	48.0	45.0	0.0	64.0		
% of Total NonSalary/Wage Cos	41.2	33.6	0.0	10.1	2.8	0.0	12.2		
% of All Functions Cost.....	17.5	14.2	0.0	4.3	1.2	0.0	5.2	42.4	
TOTAL COSTS									
Total Dollars.....	177,537,000	115,884,000	0	36,763,000	11,117,000	36,991,000	33,155,000	411,447,008	
Dollars per FTE Student.....	16,330	10,659	0	3,381	1,023	3,402	3,050	37,845	
% of All Functions Cost.....	43.1	28.2	0.0	8.9	2.7	9.0	8.1	100.0	

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, CHAPEL HILL

SALARY AND WAGE COSTS									
Total Dollars.....	167,309,400	56,599,210	53,884,300	18,339,620	4,558,493	18,357,020	13,242,970	332,291,008	
Dollars per FTE Student.....	7,995	2,704	2,575	876	218	877	633	15,878	
% of Function Cost.....	69.3	54.9	45.3	55.0	62.1	67.7	30.8		
% of Total Salary/Wage Cost..	59.4	17.0	16.2	5.5	1.4	5.2	4.0		
% of All Functions Cost.....	29.1	9.9	9.4	3.2	0.8	3.2	2.3	57.9	
NON SALARY AND WAGE COSTS									
Total Dollars.....	74,077,592	46,539,992	65,067,500	15,007,720	2,786,948	8,766,610	29,703,970	241,949,826	
Dollars per FTE Student.....	3,540	2,224	3,109	717	133	419	1,419	11,561	
% of Function Cost.....	31.0	45.0	55.0	45.0	38.3	32.0	69.0		
% of Total NonSalary/Wage Cos	30.6	19.2	24.3	6.2	1.2	3.6	12.3		
% of All Functions Cost.....	12.9	8.1	11.3	2.6	0.5	1.5	5.2	42.1	
TOTAL COSTS									
Total Dollars.....	241,386,992	103,139,202	118,951,800	33,347,340	7,345,435	27,123,630	42,946,940	574,240,832	
Dollars per FTE Student.....	11,534	4,928	5,684	1,593	351	1,296	2,252	27,339	
% of All Functions Cost.....	42.0	18.0	20.7	5.8	1.3	4.7	7.5	100.0	

APPENDIX B

FY 1993 FINANCIAL PLAN TRAVEL AND FINANCIAL PLAN

OPTAR REPORTS

This appendix are the Travel and Non-Travel related costs that were referred to in Chapter V.

NPS US FINANCIAL PLAN OPTAR REPORT

UNIT	ACC	DESCRIPTION	SCC	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL
UD	MD	SAG	AA	OPTAR	OPTAR	OPTAR	OPTAR	OPTAR
UD4	MD	3K	AA	\$ 7,200.00	\$ 7,200.00	\$ 7,200.00	\$ 7,200.00	\$ 29,000.00
NS	3K	FOL	AP	\$ 11,200.00	\$ 11,200.00	\$ 11,200.00	\$ 11,200.00	\$ 45,000.00
	3K	REINVENTION LAB	AR	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
LINE MANAGER CODE ADD				\$ 18,400.00	\$ 18,400.00	\$ 18,400.00	\$ 18,400.00	\$ 74,000.00

NP'S UB FINANCIAL PLAN OPTAR REPORT

LINE	CODE	AG	SAG	DESCRIPTION	SCC	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL
---	---	---	---	---	---	---	---	---	---	---
001	F3	SK	COMMAN EVAL	AB	\$	1,200.00	1,200.00	1,200.00	1,200.00	4,800.00
002	F3	SK	JAG	AD	\$	2,000.00	2,000.00	2,000.00	2,000.00	8,000.00
003	F3	SK	JAG	AD	\$	2,000.00	2,000.00	2,000.00	2,000.00	8,000.00
004	F3	SK	JAG	AD	\$	2,000.00	2,000.00	2,000.00	2,000.00	8,000.00
005	F3	SK	EED-REG	AE	\$	3,500.00	3,500.00	3,500.00	3,500.00	14,000.00
006	F3	SK	EED-REG	AE	\$	3,500.00	3,500.00	3,500.00	3,500.00	14,000.00
007	F3	SK	SAFETY SHOES	AC	\$	2,000.00	2,000.00	2,000.00	2,000.00	8,000.00
008	F3	SK	SAFETY SHOES	AC	\$	2,000.00	2,000.00	2,000.00	2,000.00	8,000.00
009	F3	SK	SAFETY GLASSES	AM	\$	1,000.00	1,000.00	1,000.00	1,000.00	4,000.00
010	F3	SK	SAFETY GLASSES	AM	\$	1,000.00	1,000.00	1,000.00	1,000.00	4,000.00
---	---	---	---	---	---	---	---	---	---	---
LINE	MANAGER	CODE	A02		\$	18,500.00	18,500.00	18,500.00	18,500.00	74,000.00

REPORT NO: W45L0J14
 PREPARED : 01/20/79

NAVAL POSTGRADUATE SCHOOL
 COMPTROLLER'S OFFICE

PAGE NO: 3
 FY: 79

NPS DB FINANCIAL PLAN UPTAK REPORT

DEPT CODE	AG	SAG	DESCRIPTION	SCC	1ST QTR OPTAR	2ND QTR OPTAR	3RD QTR OPTAR	4TH QTR OPTAR	ANNUAL OPTAR
01	M8	3K	PROVOST	BA	\$ 4,000.00	\$ 6,500.00	\$ 3,000.00	\$ 1,500.00	\$ 15,000.00
01B	M8	3K	FIRST DUTY PCS	BB	.00	.00	.00	.00	.00
01P	M8	3K	FAC PCS	BP	.00	16,800.00	11,200.00	28,000.00	56,000.00
LINE MANAGER CODE 801					\$ 4,000.00	\$ 23,300.00	\$ 14,200.00	\$ 29,500.00	\$ 71,000.00

NPS UB FINANCIAL PLAN UPTAR REPORT

LINE	MANAGER	CODE	003	AU	SAG	DESCRIPTION	SEC	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL	OPTAR
01	01	01	01	01	01	01	01	01	01	01	01	01	01
02	02	02	02	02	02	02	02	02	02	02	02	02	02
03	03	03	03	03	03	03	03	03	03	03	03	03	03
04	04	04	04	04	04	04	04	04	04	04	04	04	04
05	05	05	05	05	05	05	05	05	05	05	05	05	05
06	06	06	06	06	06	06	06	06	06	06	06	06	06
07	07	07	07	07	07	07	07	07	07	07	07	07	07
08	08	08	08	08	08	08	08	08	08	08	08	08	08
09	09	09	09	09	09	09	09	09	09	09	09	09	09
10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12	12	12	12	12
13	13	13	13	13	13	13	13	13	13	13	13	13	13
14	14	14	14	14	14	14	14	14	14	14	14	14	14
15	15	15	15	15	15	15	15	15	15	15	15	15	15
16	16	16	16	16	16	16	16	16	16	16	16	16	16
17	17	17	17	17	17	17	17	17	17	17	17	17	17
18	18	18	18	18	18	18	18	18	18	18	18	18	18
19	19	19	19	19	19	19	19	19	19	19	19	19	19
20	20	20	20	20	20	20	20	20	20	20	20	20	20
21	21	21	21	21	21	21	21	21	21	21	21	21	21
22	22	22	22	22	22	22	22	22	22	22	22	22	22
23	23	23	23	23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27	27	27	27	27	27	27
28	28	28	28	28	28	28	28	28	28	28	28	28	28
29	29	29	29	29	29	29	29	29	29	29	29	29	29
30	30	30	30	30	30	30	30	30	30	30	30	30	30
31	31	31	31	31	31	31	31	31	31	31	31	31	31
32	32	32	32	32	32	32	32	32	32	32	32	32	32
33	33	33	33	33	33	33	33	33	33	33	33	33	33
34	34	34	34	34	34	34	34	34	34	34	34	34	34
35	35	35	35	35	35	35	35	35	35	35	35	35	35
36	36	36	36	36	36	36	36	36	36	36	36	36	36
37	37	37	37	37	37	37	37	37	37	37	37	37	37
38	38	38	38	38	38	38	38	38	38	38	38	38	38
39	39	39	39	39	39	39	39	39	39	39	39	39	39
40	40	40	40	40	40	40	40	40	40	40	40	40	40
41	41	41	41	41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43	43	43	43	43
44	44	44	44	44	44	44	44	44	44	44	44	44	44
45	45	45	45	45	45	45	45	45	45	45	45	45	45
46	46	46	46	46	46	46	46	46	46	46	46	46	46
47	47	47	47	47	47	47	47	47	47	47	47	47	47
48	48	48	48	48	48	48	48	48	48	48	48	48	48
49	49	49	49	49	49	49	49	49	49	49	49	49	49
50	50	50	50	50	50	50	50	50	50	50	50	50	50
51	51	51	51	51	51	51	51	51	51	51	51	51	51
52	52	52	52	52	52	52	52	52	52	52	52	52	52
53	53	53	53	53	53	53	53	53	53	53	53	53	53
54	54	54	54	54	54	54	54	54	54	54	54	54	54
55	55	55	55	55	55	55	55	55	55	55	55	55	55
56	56	56	56	56	56	56	56	56	56	56	56	56	56
57	57	57	57	57	57	57	57	57	57	57	57	57	57
58	58	58	58	58	58	58	58	58	58	58	58	58	58
59	59	59	59	59	59	59	59	59	59	59	59	59	59
60	60	60	60	60	60	60	60	60	60	60	60	60	60
61	61	61	61	61	61	61	61	61	61	61	61	61	61
62	62	62	62	62	62	62	62	62	62	62	62	62	62
63	63	63	63	63	63	63	63	63	63	63	63	63	63
64	64	64	64	64	64	64	64	64	64	64	64	64	64
65	65	65	65	65	65	65	65	65	65	65	65	65	65
66	66	66	66	66	66	66	66	66	66	66	66	66	66
67	67	67	67	67	67	67	67	67	67	67	67	67	67
68	68	68	68	68	68	68	68	68	68	68	68	68	68
69	69	69	69	69	69	69	69	69	69	69	69	69	69
70	70	70	70	70	70	70	70	70	70	70	70	70	70
71	71	71	71	71	71	71	71	71	71	71	71	71	71
72	72	72	72	72	72	72	72	72	72	72	72	72	72
73	73	73	73	73	73	73	73	73	73	73	73	73	73
74	74	74	74	74	74	74	74	74	74	74	74	74	74
75	75	75	75	75	75	75	75	75	75	75	75	75	75
76	76	76	76	76	76	76	76	76	76	76	76	76	76
77	77	77	77	77	77	77	77	77	77	77	77	77	77
78	78	78	78	78	78	78	78	78	78	78	78	78	78
79	79	79	79	79	79	79	79	79	79	79	79	79	79
80	80	80	80	80	80	80	80	80	80	80	80	80	80
81	81	81	81	81	81	81	81	81	81	81	81	81	81
82	82	82	82	82	82	82	82	82	82	82	82	82	82
83	83	83	83	83	83	83	83	83	83	83	83	83	83
84	84	84	84	84	84	84	84	84	84	84	84	84	84
85	85	85	85	85	85	85	85	85	85	85	85	85	85
86	86	86	86	86	86	86	86	86	86	86	86	86	86
87	87	87	87	87	87	87	87	87	87	87	87	87	87
88	88	88	88	88	88	88	88	88	88	88	88	88	88
89	89	89	89	89	89	89	89	89	89	89	89	89	89
90	90	90	90	90	90	90	90	90	90	90	90	90	90
91	91	91	91	91	91	91	91	91	91	91	91	91	91
92	92	92	92	92	92	92	92	92	92	92	92	92	92
93	93	93	93	93	93	93	93	93	93	93	93	93	93
94	94	94	94	94	94	94	94	94	94	94	94	94	94
95	95	95	95	95	95	95	95	95	95	95	95	95	95
96	96	96	96	96	96	96	96	96	96	96	96	96	96
97	97	97	97	97	97	97	97	97	97	97	97	97	97
98	98	98	98	98	98	98	98	98	98	98	98	98	98
99	99	99	99	99	99	99	99	99	99	99	99	99	99
100	100	100	100	100	100	100	100	100	100	100	100	100	100
101	101	101	101	101	101	101	101	101	101	101	101	101	101
102	102	102	102	102	102	102	102	102	102	102	102	102	102
103	103	103	103	103	103	103	103	103	103	103	103	103	103
104	104	104	104	104	104	104	104	104	104	104	104	104	104
105	105	105	105	105	105	105	105	105	105	105	105	105	105
106	106	106	106	106	106	106	106	106	106	106	106	106	106
107	107	107	107	107	107	107	107	107	107	107	107	107	107
108	108	108	108	108	108	108	108	108	108	108	108	108	108
109	109	109	109	109	109	109	109	109	109	109	109	109	109
110	110	110	110	110	110	110	110	110	110	110	110	110	110
111	111	111	111	111	111	111	111	111	111	111	111	111	111
112	112	112	112	112	112	112	112	112	112	112	112	112	112
113	113	113	113	113	113	113	113	113	113	113	113	113	113
114	114	114	114	114	114	114	114	114	114	114	114	114	114
115	115	115	115	115	115	115	115	115	115	115	115	115	115
116	116	116	116	116	116	116	116	116	116	116	116	116	116
117	117	117	117	117	117	117	117	117	117	117	117	117	117
118	118	118	118	118	118	118	118	118	118	118			

NP5 DB FINANCIAL PLAN OPTAR REPORT

DEPT CODE	AG	SAG	DESCRIPTION	SCC	1ST QTR OPTAR	2ND QTR OPTAR	3RD QTR OPTAR	4TH QTR OPTAR	ANNUAL OPTAR
01A	M8	3K	AVIATION SAFETY	OC	\$ 6,800.00	\$ 5,100.00	\$ 3,400.00	\$ 1,700.00	\$ 17,000.00
01B	M8	3K	EMU	OD	\$ 197,000.00	\$ 19,000.00	\$ 12,000.00	\$ 1,000.00	\$ 231,000.00
01C	M8	3K	COMMAND PHYSICIAN	DW	\$ 600.00	\$ 500.00	\$ 300.00	\$ 100.00	\$ 1,500.00
LINE	MANAGER	CODE	004		\$ 204,400.00	\$ 24,600.00	\$ 15,700.00	\$ 1,800.00	\$ 253,500.00

DEPT	CDUP	AL	SAG	SEC	DESCRIPTION	SEC	1ST OPTAR	2ND OPTAR	3RD OPTAR	4TH OPTAR	ANNUAL
---	---	---	---	---	---	---	---	---	---	---	---
01	F3	SK	MIL OPS	EC			9,000.00	9,000.00	9,000.00	3,000.00	30,000.00
04	F3	SK	MIL OPS	EC			7,200.00	3,900.00	4,300.00	2,600.00	18,000.00
41	F3	SK	ADMIN	EC			13,300.00	4,500.00	3,800.00	1,900.00	23,500.00
42	F3	SK	SUPPLY	ED			50,000.00	50,000.00	50,000.00	4,000.00	1,00,000.00
43	F3	SK	SEC SVCS	EF			1,200.00	900.00	500.00	300.00	3,000.00
42M	F3	SK	MAT DIV	EF			2,800.00	2,100.00	1,000.00	700.00	7,600.00
47	F3	SK	FAN SVC CT-UMBUDSMAN	EG			78,000.00	10,000.00	1,800.00	5,000.00	100,000.00
46	F3	SK	CULCETINS	LJ			1,000.00	1,000.00	1,000.00	1,000.00	4,000.00
47	LB	SK	FAN SVCS	EK			13,200.00	9,900.00	6,600.00	3,300.00	33,000.00
49	F3	SK	UPH US GARDEN	EM			1,000.00	1,500.00	1,500.00	1,000.00	5,000.00
45L	LU	SK	CHILD CARE	ER			4,800.00	3,600.00	2,400.00	1,200.00	12,000.00
443	F3	SK	FIRE RES	ES			25,000.00	1,000.00	1,000.00	1,000.00	25,000.00
44	F3	SK	REGISTRATION	EW				100	100	100	25,000.00
04	F3	SK									
LINE MANAGER CLUE FOR							\$ 206,500.00	\$ 96,400.00	\$ 87,000.00	\$ 04,000.00	\$ 456,500.00

NPS ON FINANCIAL PLAN OPTAR REPORT

DEPT	AG	SAG	SCC	DESCRIPTION	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL
CODE			SCC		OPTAR	OPTAR	OPTAR	OPTAR	OPTAR
41F	FJ	SK	FA	COMM/PHONES	\$ 323,625.00	\$ 165,125.00	\$ 165,125.00	\$ 165,125.00	\$ 658,000.00
41F	FJ	SK	FD	UTILITIES	\$ 111,000.00	\$ 111,000.00	\$ 111,000.00	\$ 111,000.00	\$ 444,000.00
41F	FJ	SK	FE	ENGR SUPPORT	\$ 450,000.00	\$ 337,000.00	\$ 225,000.00	\$ 112,000.00	\$ 1,124,000.00
LINE	MANAGER	CODE	GAA		\$1,214,625.00	\$ 936,125.00	\$ 816,125.00	\$ 696,125.00	\$ 3,663,000.00

NPS OB FINANCIAL PLAN OPTAR REPORT

DEPT CODE	AG	SAG	SCC	DESCRIPTION	1ST QTR OPTAR	2ND QTR OPTAR	3RD QTR OPTAR	4TH QTR OPTAR	ANNUAL OPTAR
---	--	--	---	-----	-----	-----	-----	-----	-----
211	C5	5K	LF	INJURY COMP	\$ 205,000.00	\$.00	\$.00	\$.00	205,000.00
LINE MANAGER CODE G4B					\$ 205,000.00	\$.00	\$.00	\$.00	205,000.00

NPS DR FINANCIAL PLAN OPTAR REPORT

LINE	MANAGER CODE	DESCRIPTION	SCC	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL
				OPTAR	OPTAR	OPTAR	OPTAR	OPTAR
43AF	F4 SK	MAINT RI	FC	\$ 579,000.00	\$ 434,000.00	\$ 290,000.00	\$ 145,000.00	\$ 1,448,000.00
43AF	F4 SK	CONST RI	FF	25,000.00	10,000.00	12,000.00	7,000.00	62,000.00
				\$ 604,000.00	\$ 452,000.00	\$ 302,000.00	\$ 152,000.00	\$ 1,510,000.00

NAVAL POSTGRADUATE SCHOOL
COMPTROLLER'S OFFICE

VAL POSTGRADUATE SCHOOL
COMPTROLLER'S OFFICE

WPS US FINANCIAL PLAN OPTAR REPORT

[illegible]

NPS US FINANCIAL PLAN UPTAR REPORT

DEPT	AG	SAG	SCC	DESCRIPTION	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL
---	---	---	---	---	---	---	---	---	---
OT	Md	3C	LAB	MAINT	UPTAR	UPTAR	UPTAR	UPTAR	UPTAR
OT	Md	3C	LAB	OTHER	---	---	---	---	---
					\$ 206,300.00	\$ 2,000.00	\$ 54,000.00	\$ 1,000.00	\$ 302,000.00
					\$ 601,000.00	\$ 601,000.00	\$ 59,000.00	\$ 41,000.00	\$ 241,000.00
					\$ 386,300.00	\$ 62,000.00	\$ 52,000.00	\$ 42,700.00	\$ 543,000.00

LINE MANAGER CODE J06

IMPS ON FINANCIAL PLAN UPTAKE REPORT

REPORT CODE	AG	SAG	DESCRIPTION	SEC	1ST QTR OPTAR	2ND QTR OPTAR	3RD QTR OPTAR	4TH QTR OPTAR	ANNUAL
---	---	---	---	---	---	---	---	---	---
F3	SK	COMPTROLLER	LB	\$	9,200.00	6,900.00	\$	21,300.00	23,400.00
F3	SK	ADP	LE	\$	10,400.00	7,300.00	\$	3,100.00	26,000.00
F3	SK	CIN PERSONNEL	LK	\$	132,000.00	0.00	0.00	132,000.00	132,000.00
F3	SK	CIN-ADP	LK	\$	150,000.00	18,200.00	\$	5,400.00	181,000.00
LINE MANAGER CODE L07									

NPS US FINANCIAL PLAN OPTAR REPORT

DEPT	AG	SAG	SCC	DESCRIPTION	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL
---	---	---	---	-----	-----	-----	-----	-----	-----
4120R	48	SK	EL	POSTAL COSTS	\$ 55,000.00	\$ 55,000.00	\$ 55,000.00	\$ 55,000.00	\$ 220,000.00
212R	48	SK	LD	MOVING	.00	.00	.00	.00	.00
224	M8	SK	LG	TRAVEL	17,000.00	13,000.00	9,000.00	4,000.00	43,000.00
211	SK	SK	LH	EAP TEMP ASST PROG	25,000.00	.00	.00	.00	25,000.00
LINE MANAGER CODE L08					\$ 97,000.00	\$ 68,000.00	\$ 64,000.00	\$ 59,000.00	\$ 288,000.00

LINE	MANAGER	CODE	ADZ	SEC	DESCRIPTION	AL	SAC	1ST QTR	2ND QTR	3RD QTR	4TH QTR	ANNUAL
001				AB	DE							
002				AB	COMMAND EVAL	F3	SK	1,000.00	00	00	00	1,000.00
003				AB	SAFETY	F3	SK	1,000.00	00	00	00	1,000.00
004				AC				1,000.00	00	00	00	1,000.00
005				AC				1,000.00	00	00	00	1,000.00
006				AE				500.00	00	00	00	1,000.00
007				AE				500.00	00	00	00	1,000.00
008				AF	NAR-MED SHOES	F3	SK	00	00	00	00	00
009				AF	SAFETY GLASSES	F3	SK	00	00	00	00	00
010				AF				00	00	00	00	00
011				AF				00	00	00	00	00
012				AF				00	00	00	00	00
013				AF				00	00	00	00	00
014				AF				00	00	00	00	00
015				AF				00	00	00	00	00
016				AF				00	00	00	00	00
017				AF				00	00	00	00	00
018				AF				00	00	00	00	00
019				AF				00	00	00	00	00
020				AF				00	00	00	00	00
021				AF				00	00	00	00	00
022				AF				00	00	00	00	00
023				AF				00	00	00	00	00
024				AF				00	00	00	00	00
025				AF				00	00	00	00	00
026				AF				00	00	00	00	00
027				AF				00	00	00	00	00
028				AF				00	00	00	00	00
029				AF				00	00	00	00	00
030				AF				00	00	00	00	00
031				AF				00	00	00	00	00
032				AF				00	00	00	00	00
033				AF				00	00	00	00	00
034				AF				00	00	00	00	00
035				AF				00	00	00	00	00
036				AF				00	00	00	00	00
037				AF				00	00	00	00	00
038				AF				00	00	00	00	00
039				AF				00	00	00	00	00
040				AF				00	00	00	00	00
041				AF				00	00	00	00	00
042				AF				00	00	00	00	00
043				AF				00	00	00	00	00
044				AF				00	00	00	00	00
045				AF				00	00	00	00	00
046				AF				00	00	00	00	00
047				AF				00	00	00	00	00
048				AF				00	00	00	00	00
049				AF				00	00	00	00	00
050				AF				00	00	00	00	00
051				AF				00	00	00	00	00
052				AF				00	00	00	00	00
053				AF				00	00	00	00	00
054				AF				00	00	00	00	00
055				AF				00	00	00	00	00
056				AF				00	00	00	00	00
057				AF				00	00	00	00	00
058				AF				00	00	00	00	00
059				AF				00	00	00	00	00
060				AF				00	00	00	00	00
061				AF				00	00	00	00	00
062				AF				00	00	00	00	00
063				AF				00	00	00	00	00
064				AF				00	00	00	00	00
065				AF				00	00	00	00	00
066				AF				00	00	00	00	00
067				AF				00	00	00	00	00
068				AF				00	00	00	00	00
069				AF				00	00	00	00	00
070				AF				00	00	00	00	00
071				AF				00	00	00	00	00
072				AF				00	00	00	00	00
073				AF				00	00	00	00	00
074				AF				00	00	00	00	00
075				AF				00	00	00	00	00
076				AF				00	00	00	00	00
077				AF				00	00	00	00	00
078				AF				00	00	00	00	00
079				AF				00	00	00	00	00
080				AF				00	00	00	00	00
081				AF				00	00	00	00	00
082				AF				00	00	00	00	00
083				AF				00	00	00	00	00
084				AF				00	00	00	00	00
085				AF				00	00	00	00	00
086				AF				00	00	00	00	00
087				AF				00	00	00	00	00
088				AF				00	00	00	00	00
089				AF				00	00	00	00	00
090				AF				00	00	00	00	00
091				AF				00	00	00	00	00
092				AF				00	00	00	00	00
093				AF				00	00	00	00	00
094				AF				00	00	00	00	00
095				AF				00	00	00	00	00
096				AF				00	00	00	00	00
097				AF				00	00	00	00	00
098				AF				00	00	00	00	00
099				AF				00	00	00	00	00
100				AF				00	00	00	00	00

UNIT	AL	SAG	DESCRIPTION	SCC	1ST QTR TRAVEL	2ND QTR TRAVEL	3RD QTR TRAVEL	4TH QTR TRAVEL	ANNUAL TRAVEL
012E	M6	3K	DEFENSE SAFETY	DC	\$ 5,000.00	\$ 5,000.00	\$ 4,000.00	\$ 4,000.00	\$ 18,000.00
014M	M6	3K	EMG	DW	1,000.00	1,000.00	.00	.00	2,000.00
LINE MANAGER CODE D04									
					\$ 6,000.00	\$ 6,000.00	\$ 4,000.00	\$ 4,000.00	\$ 20,000.00

NPS DB FINANCIAL PLAN TRAVEL REPORT

DEPT CODE	AG	SAG	SEC	DESCRIPTION	SEC	1ST QTR TRAVEL	2ND QTR TRAVEL	3RD QTR TRAVEL	4TH QTR TRAVEL	ANNUAL TRAVEL
04	F3	SK	EA	MILITARY MEDICAL	EA	\$ 4,800.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 16,800.00
41	F3	SK	EC	ADMIN	EC	1,000.00	1,000.00	.00	.00	2,000.00
42	F3	SK	ED	EDS (EM, DINING SVC)	ED	.00	.00	.00	.00	.00
42M	F3	SK	EM	FAM SVC CT-UMBUDSMAN	EM	.00	.00	.00	.00	.00
44	F3	SK	EP	FAM SVC CT-UMBUDSMAN	EP	.00	.00	.00	.00	.00
46	F3	SK	EJ	CHAPLAINS	EJ	.00	.00	.00	.00	.00
47	LB	SK	EK	FAM SVC	EK	.00	.00	.00	.00	.00
48	F3	SK	EL	CHAPLAINS	EL	.00	.00	.00	.00	.00
49C	LU	SK	ER	CHILD CARE	ER	.00	.00	.00	.00	.00
49J	F3	SK	ES	BASE PCS	ES	.00	.00	.00	.00	.00
49K	F3	SK	ET	BASE PCS	ET	.00	.00	.00	.00	.00
04	F3	SK	EW	RECREATION	EW	.00	.00	.00	.00	.00
LINE	MANAGER CODE FOR					\$ 5,800.00	\$ 5,000.00	\$ 4,000.00	\$ 4,000.00	\$ 18,800.00

NPS DR FINANCIAL PLAN TRAVEL REPORT

DUPT	AL	SAG	DESCRIPTION	SCC	1ST QTR TRAVEL	2ND QTR TRAVEL	3RD QTR TRAVEL	4TH QTR TRAVEL	ANNUAL TRAVEL
211	FJ	SK	COMPTROLLER	LC	1,000.00	1,500.00	.00	.00	2,500.00
211	FJ	SK	STAFF PCS	LC	.00	.00	.00	.00	.00
271	FJ	SK	CIV PERSONNEL	LC	1,500.00	1,500.00	.00	.00	3,000.00
211	FJ	SK	CON-ADP	LC	.00	.00	.00	.00	.00
LINE MANAGER CODE L07					\$ 2,500.00	\$ 2,500.00	\$.00	\$.00	\$ 5,000.00

NP3 UB FINANCIAL PLAN TRAVEL REPORT

LINE	AG	SAG	SEC	DESCRIPTION	SEC	1ST QTR TRAVEL	2ND QTR TRAVEL	3RD QTR TRAVEL	4TH QTR TRAVEL	ANNUAL TRAVEL
---	---	---	---	-----	---	---	---	---	---	---
4220R	SK	SK	EL	POSTAL COSTS	EL	\$	\$	\$	\$	\$
411	AS	SK	LD	OVERTNIGHT MAIL	LD	+	+	+	+	+
224	MB	SK	LG	TRAINING	LG	1,000.00	+	1,000.00	+	2,000.00
211	SK	SK	LH	EAP TEMP ASST PRDCT	LH	+	+	+	+	+
LINE MANAGER CODE L08						\$ 1,000.00	+	1,000.00	+	2,000.00

NP'S PAID DB FINANCIAL PLAN TRAVEL REPORT

DEPT CODE	AG	SAG	SCC	DESCRIPTION	SCC	1ST QTR TRAVEL	2ND QTR TRAVEL	3RD QTR TRAVEL	4TH QTR TRAVEL	ANNUAL TRAVEL
---	--	--	---	---	---	---	---	---	---	---
042	--	2K	JC	PUBLIC AFFAIRS	JC	\$ 3,000.00	\$ 1,800.00	\$ 1,800.00	\$ 1,600.00	\$ 8,200.00
LINE MANAGER CODE PAID										
REPORT GROUP PA										
						\$ 3,000.00	\$ 1,800.00	\$ 1,800.00	\$ 1,600.00	\$ 8,200.00
						\$ 3,000.00	\$ 1,800.00	\$ 1,800.00	\$ 1,600.00	\$ 8,200.00

LIST OF REFERENCES

1. Summary of the Chief of Naval Operation's comments at the Graduate Education Review Board, 18 November 1993.
2. Memorandum from Naval Postgraduate School Superintendent to Department Chairmen, Undated.
3. Executive Office of the President, Office of Management and Budget Circular Number A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, Revised, Transmittal Memorandum Number 64, Washington D.C. 20503, 29 October 1992.
4. Hunter J. and Hicks S., Unit Costing at the Naval Postgraduate School, Master's Thesis, Naval Postgraduate School, Monterey, California, June 1991.
5. Objective of the Financial Management program, Naval Postgraduate School Catalog Academic Year 1993, Monterey California, P. 42.
6. Ibid, P. 51
7. Best Graduate Schools, US News and World Report, 1994 Annual Guide, 21 March 1994.
8. Department of Defense, Unit Cost Resourcing Guidance, P. 2, 15 October 1990.
9. Deakin, Edward B. and Maher, Michael W., Cost Accounting, 3rd ed. PP. 100-103, Irwin: Homewood, IL, 1991.
10. Hunter J. and Hicks S., Unit Costing at the Naval Postgraduate School, Master's Thesis, Naval Postgraduate School, Monterey California, June 1991, P.30.
11. Naval Postgraduate School, Naval Postgraduate School Catalog, Academic Year 1993, Monterey California, P. 7.
12. Deakin, Edward B. and Maher, Michael W., Cost Accounting, 3rd ed. P. 1035, Irwin: Homewood, IL, 1991.
13. National Center for Educational Statistics, Projections of Education Statistics to 2003, United States Department of Education, Office of Education Research and Improvement, December 1992.

14. Department of the Navy, Fully Funded Graduate Education Programs (FY-94), OPNAVNOTE 1520, 30 March 1993.

15. Bowman, William. Nontechnical Graduate Education Programs in the United States Navy: A Cost Effectiveness Study Of the Naval Postgraduate School, United States Naval Academy, December 1992.

INITIAL DISTRIBUTION LIST

	No. Copies
1. Defense Technical Information Center Cameron Station Alexandria, Virginia 22304-6145	2
2. Library, Code 52 Naval Postgraduate School Monterey, California 93943-5101	2
3. LT Paul E. Borkowski 100 Kings Trail Williamsville, New York 14221	3
4. Professor Daniel C. Boger, Code SM/Bo Department of Systems Management Naval Postgraduate School Monterey, California 93943-5103	3
5. Professor Gregory G. Hildebrandt, Code SM/Hi Department of Systems Management Naval Postgraduate School Monterey, California 93943-5103	3
6. Joseph Barron, Code 01A Office of the Provost Naval Postgraduate School Monterey, California 93943-5000	1
7. NPS Comptroller, Code 21 Office of Resource Management Naval Postgraduate School Monterey, California 93943-5000	1
8. David R. Whipple, Code SM Chairman, Department of Systems Management Naval Postgraduate School Monterey, California 93943-5000	1
9. Richard Elster, Code 06 Dean of Instruction Naval Postgraduate School Monterey, California 93943-5000	1

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY CA 93943-5101

ID:3276800303613
RES
Complex Variables and
\Brown & Churchill
due:12/3/1997,12:07

ID:3276800303613
RES
MA2121 Solutions
due:12/3/1997,12:09

ID:32768000195630
8714575
3 cost benefit analys
\Borkowski, Paul E.
due:12/20/1997,23:59

ID:32768003076035
116998
3 cost benefit analys
\Davis, Jeffrey S.
due:12/20/1997,23:59



3 2768 00019563 0